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PRIORITY TRANSPORT AND COMMUNICATIONS PROGRAMME FOR AFRICAN LAND-LOCKED COUNTRIES

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INTRODUCTION

1. General Assembly resolution 38/150 adopted on 19 December 1983 requested inter alia the Executive Secretary of ECA to urgently prepare programmes on transport and communications of special importance to land-locked developing countries in Africa. As reported in the report of the Secretary-General to the General Assembly at its thirty-ninth session, consultations regarding this work were held with UNCTAD during the course of 1984.1/ The UNCTAD secretariat made available a team of experts, which visited all the land-locked African countries in May 1985 in order to assess the specific needs and problems of these countries. The present report is based on the observations made during this mission and on previous and current work by UNCTAD and ECA on behalf of the African land-locked countries.2/

2. The first part of this report highlights the particular problems which African land-locked countries face and the programme of action required to alleviate them. The second part highlights the country specific transit transport situation and the related projects along the transit corridors. Annexes to this report provide some basic statistical data on the African land-locked countries.

1/ See A/39/223/Add.1

2/ The SADCC project details included in the report are fully reflected in the background document presented at the Harare meeting on 30-31st January 1986 for the sector "Transport and Communications".

I. PARTICULAR PROBLEMS AND NEEDS OF AFRICAN LAND-LOCKED COUNTRIES

1. Some basic considerations

3. African land-locked countries belong to the poorest countries in the region. Indeed eleven of them belong to the category of least developed countries. The lack of territorial access to the sea, aggravated by great distances from seaports[1/], by remoteness and isolation from world markets, greater difficulties in, and relatively higher costs of, their international transport services constitute an additional impediment to their foreign trade and one of the major causes of their relative poverty and a serious constraint to their potential economic and social development. The economic performance of most of these countries during recent years has deteriorated. The per capita GDP of eight of the African land-locked countries was below US$300 in 1983 as compared to an average of US$809 for all developing countries.

4. Although the transit-transport problem has been an issue of serious concern for many years, particularly with respect to legal international implications of land-lockedness, it is within the last twenty years that greater awareness of the particular needs of these countries has steadily gained momentum. UNCTAD at a global level and ECA at a regional level, have played an important role in drawing the attention of the international community to the unique difficulties which land-locked developing countries face.

5. Although it may be argued that the remoter regions of some of the developing maritime African States also incur high transport costs, this burden is generally heavier in the case of land-locked countries because of various factors, particularly slow and cumbersome transit procedures. Furthermore, some of these countries have to incur other costs that result from the maintenance of higher levels of inventories and greater storage facilities because of the unpredictability of transit transport services. The services on some of the traditional transit routes, particularly in the Southern African subregion have in fact been totally disrupted, so that land-locked countries have had to use more expensive alternative transit corridors. This has also compelled some of these countries to channel their meagre resources to projects to develop alternative "insurance" routes.

6. There are several other adverse circumstances inherent in the dependence on transit through another country. In an effort to safeguard internal security which may result from the diversion of transit cargo en route to the domestic market, the transit country might impose some restrictions on the movement

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1/ The African land-locked country closest to the sea is Swaziland, with a transit route of 220 kilometres to the port of Maputo in Swaziland. Several of them are over 550 kilometres from the nearest sea port. In fact seven of them have transit routes of not less than 1000 kilometres.

of transit cargo by requiring the land-locked countries to use specific modes of transport and/or routes and/or to pay heavy security bond deposits. Transit costs incurred by most African land-locked countries also in many cases have to be made in foreign exchange. More generally the land-locked countries have no influence on the development of transit transport infrastructure in the coastal countries, which may not accord the same priority to such projects. Even in cases where investment in transit facilities might prove attractive because of the potential to generate revenue from services rendered, such expectations of revenue may be critically questioned in the absence of guarantees that improved or expanded facilities would be utilized on an economic scale. Furthermore, since most of the African maritime states are themselves poor, with scarce resources, their ability to make major contributions to the development of a viable transit transport system is very limited.

2. Priority areas for action

(i) Integrated approach to transit transport development

7. Although several African land-locked countries have traditional ties with their transit neighbours and have a good record of co-operation in the development of transit transport facilities, the increasing demand for services by land-locked countries has imposed serious inefficiencies in the transit transport systems. The post-independence period has also indicated that the traditional co-operative spirit in some of the subregions may have lost momentum considerably. There is clearly a need for deliberate efforts to promote viable co-operative arrangements between land-locked countries and their transit neighbours in all areas of transit transport operations at bilateral and/or subregional levels. Land-locked countries and their transit neighbours should be encouraged to establish joint obligations and responsibilities for financing, operating or managing transit facilities and organizations related to transit transport.

8. In order to enhance this co-operative approach, it would be useful for each land-locked country with its transit neighbour(s) to establish some form of high level co-ordinating committee which would meet periodically to set out planning and policy guidelines and procedures related to transit corridor investment or management decisions. At the operational level, representatives of Government institutions dealing with transit matters should also have formal regular consultations to review the day-to-day implementation process. Arrangements should also be made for consultations between the operational executives of the governments with the users of the transit facilities with a view to the expeditious solution of operational problems. A similar pattern of co-ordination should also be established at national level. The international community should stand ready as a third-party to provide financial and technical assistance in support of transit transport development programmes/projects at national and subregional levels.

9. Although the specific difficulties faced by individual African land-locked countries may differ in some degree there is a range of common problems in all these countries on which collective action by the land-locked countries, their transit neighbours and the international community should be focused.

(ii) Road transport

10. The quality of transit road services in most of the countries is seriously hampered by inadequate infrastructure, poor maintenance, inadequate supply of spare parts and shortage of technical skills. There is an urgent need for support in the rehabilitation and preventive maintenance of transit facilities. This support should cover the provision of spare parts, tools, building materials as well as the urgent improvement of infrastructures and maximum utilization of existing capacity and facilities. The road networks should also be expanded to provide inter-country road linkages between land-locked countries and their transit neighbours, where feasible and where none exist. Inter-country agreements to ensure smooth movement of cargo including those related to vehicle dimensions, axle load specifications and other legal and administrative questions should be encouraged and effectively implemented.

(iii) Rail transport

11. The development of the rail network between the ports and most of the African land-locked developing countries has been slow and in several cases the rail corridors are linked to the interior of land-locked developing countries only through road services. This necessitates trans-shipments en route, which lead to enormous delays and damage to cargo. Furthermore, shortages of appropriate skills, compounded by unsatisfactory maintenance of railway infrastructure and equipment, sub-optimal wagon turnaround cycle times, inadequacy of locomotive power and rolling stock and poor marshalling facilities reduce the efficiency of rail transport considerably. Seasonal directional imbalances in traffic can also raise operating costs because railways have high threshold costs, i.e., they need a relatively large volume of traffic to meet minimum operating expenses at competitive rates.

12. Support is urgently required to improve the maintenance of existing railway infrastructure and to train operational personnel. Furthermore close co-operation between land-locked countries and their transit neighbours will be necessary to ensure harmonization of technical standards, documentation procedures and management practices, as well as the establishment of arrangements for the shared use of railway wagons and port terminal facilities and the sharing of capital investment required for additional installations in the transit country to accommodate transit traffic.

(iv) Port and storage facilities

13. The port facilities in many African maritime countries are inadequate. Port congestion is also a regular occurrence. Cargo-handling facilities are generally not adapted to modern technology. Damage, deterioration and loss of cargo in ports are also quite common and delays in cargo loading/unloading lead to surcharges which can sometimes be considerable. The berth capacity is also often inadequate and in some cases the demand for specific berth/handling facilities for specialized vessels and cargo cannot be met. The transport system to move cargo into/out of port is also inefficient.

14. Adequate space should be provided to the land-locked countries for the construction of transit warehouses for the assembly and consolidation of exports, and to hold imports pending the completion of formalities and the availability of transport. This space should be sufficiently removed from the active port area to permit secure long-term storage without interference with port operations. It must have an integral transport system which will provide fast, low-cost transfer to and from ship-berthing areas, and it must be within easy access of principal inland transport routes. Closely related is the need to develop arrangements whereby the land-locked country can share financial and managerial responsibility for those port facilities of which it is the primary user.

(v) Air transport

15. The shortcomings of traditional surface communications render the alternative of air transport inevitable in land-locked countries. For these physically isolated countries, air transport, in spite of its generally higher operating costs, plays an essential, even vital, role in their cohesion and in their relations with other countries. The advantages offered by air transport have, however, not been exploited in an equal and profitable way by the various land-locked States.

16. A first priority should be to provide land-locked countries with a more coherent air transport system oriented towards the development of regional activities in preference to the operation of more uncertain international lines, during a necessary period of renovation. Changes in airport infrastructures, reorganization of fleets, improved scheduling of flights, policy arrangements, training of higher qualified personnel and improvement of management methods are the main requirements which the governments concerned and the international community will have to meet in the near future. Experiments by certain companies in the land-locked countries with international routes have resulted in deficit operations in the face of superior competition from the principal African or foreign compagnies specializing in long-haul traffic. For the time being at least, it would appear more appropriate for the land-locked countries to focus on the development of domestic and regional routes, including, where practicable surface communications are lacking, services for carrying goods brought by sea from ports to their final destination. The negotiation of agreements by domestic companies with international companies for joint or pooled operations is likely to maintain the presence of the national carrier in those sectors without the risks of unequal competition.

17. Regional centres for assembling freight can be organized at designated points on the principal international routes. These airfields can then become points of convergence for the freight of several land-locked countries, thereby encouraging the development of regional traffic for national companies. Furthermore, a reasonable share of the available space on aircraft can be purchased at reasonable cost from the international companies serving the country(ies). This solution has the advantage of opening up lucrative outlets for land-locked countries' products without the investment and responsibility of operating the air service.

18. Some of the main airports in African land-locked countries are not adapted to new aircraft, and the inadequacy of their facilities impose higher operating costs on the carrier (reduced payloads for example), which are liable to jeopardize the regularity and the volume of the supplies needed by the least favoured countries. A certain minimum of mechanization for speeding up the loading or unloading of aircraft and the movement of freight between the aircraft and the cargo sheds, is essential from the point of view of aircraft operating costs or requirements. Furthermore, an adequate collection and distribution system must be provided. The existence of an efficient distribution system is a strong marketing tool which stimulates demand for air freight services.

(vi) Communications

19. The remoteness of land-locked developing countries from seaports and overseas markets, compounded by inadequate communication links with various ports and commercial centres in these countries and between ports and overseas markets, continues to be a major handicap inhibiting the speedy movement of transit cargo. This often leads to enormous delays in getting the cargo in and out of the ports, since there is irregular information on the time schedules for the arrival and departure of cargo. The costs caused by such delays can be considerable. Urgent international support is required to improve communication links to serve land-locked countries and their transit neighbours.

(vii) Documentation and procedures

20. The movement of transit cargo also faces a number of constraints of an administrative nature such as late arrival of documents at the transit seaports, cumbersome customs clearance procedures at the borders etc., resulting in long warehouse storage time with consequent higher storage charges, losses and pilerage, expensive customs security bonds and, in general terms, high transit transport costs. Trade facilitation is therefore even more relevant for land-locked countries of which administrative procedures and time-consuming formalities are often duplicated. Such a programme should involve both the transit countries and their land-locked neighbours, since the issues to be considered necessitate integrated solutions. In this connection, the use of internationally agreed, simplified and non-negotiable transport documents should be encouraged. The adoption of such documents will result in simpler, faster and safer transit procedures.

21. Land-locked and transit countries should also think of the benefits they could draw from using multimodal transport documents. For that, they should promote the application of multimodal transport as defined in the United Nations Convention on International Multimodal Transport of Goods, and accept multimodal transport documents issued under that Convention. As an adsditional but very important simplification measure for the movement of goods in transit, it is recommended to use standardized consignment identifiers, as laid down in internationally agreed recommendations. The above-mentioned and other trade facilitation measures should be applied at national and international bilateral or multilateral level and by both official and private parties

involved in transit operations. They may be applied separately, in combination and, best of all in the framework of a bilateral or multilateral transit agreement.

(viii) Management and training

22. There is an acute shortage of trained manpower in both the land-locked and transit countries to meet the requirements of efficient management of transit transport operations at all levels. In some cases the training needs have been identified, however their implementation remains poor and inadequate. In implementing the training programmes, an integrated approach should be adopted, with the training orientation encompassing all levels from the overall and top management to the middle and low-level operators. Consequently, as part of the programmes, specialized workshops and seminars should be held periodically for overall and top management. Such training facilities might include executives from other regions. The training of middle and low-level operators should, however, be conducted at the country level. In devising and implementing these training programmes, efforts should be made to ensure that these are well-designed and functionally related to one another. The programmes should also include the training of instructors and the provision of training materials. Where the training requires foreign experts, it is desirable that local counterparts be provided in order to ensure a smooth transition to self-reliant manpower development.

(ix) Legal arrangements

23. As has been stressed above, the improvement of transit transport facilities, services and operations will be enhanced through the promotion of agreements at bilateral and/or subregional level or on a transit corridor basis, which constitute mutually binding commitments to co-operate in establishing an effective transit transport system. These should cover all modes of transit transport and related relevant services such as documentation, customs procedures, insurance and freight forwarding and regulations regarding transit transport employees. A further legal dimension relates to existing international conventions which are relevant to transit transport and trade. Many land-locked and transit countries have not yet adhered to these conventions. Their retification would significantly contribute to removing some of the bottlenecks currently restraining transit traffic. Some of these agreements need to be modified to take into account differing regional economic and political conditions. Furthermore, there may be a need to establish broadly accepted mechanisms to ensure effective implementation of existing agreements. Some of the agreements may also need to be reviewed in order to reflect changing transit requirements.

II. TRANSIT TRANSPORT CORRIDOR SYSTEMS AND COUNTRIES' SPECIFIC PRIORITY PROGRAMMES

BOTSWANA

Corridor system

24. Port Elizabeth is the most important entry point for Botswana's imports followed by Durban, Cape Town and Jan Smuts. The importance of Port Elizabeth for Botswana's imports appears anomalous as Durban is 102 km closer to the Botswana border. This increased land distance is, however, more than offset by the shorter sea distance from the United States and Western Europe, if routed via the Cape. For cargo coming around the Cape, therefore, the choice between Port Elizabeth and Durban is partially dependent upon the relative costs of an additional 102 km rail journey compared to a 750 km reduced sea trip. Both ports are operated by the South African Harbours Corporation and the same wharfage, storage and other port charges apply. The other consideration as to why Port Elizabeth is preferred as an entry port is that wagons dispatched from Durban to Botswana have to pass through major rail-junctions at Johannesburg, Krugersdorp and Mafeking. From Port Elizabeth few major rail-junctions have to be passed, Noupoort, De Aar, Kimberley and Mafeking. At each of these rail-junctions there is the likelihood that trains will be broken down and the wagons remarshalled for onward movement. The shorter rail distance and the reduced number of junctions would suggest that transit time from Durban should be significantly less than from Port Elizabeth, but it is a known fact that because of the heavy traffic demand between Durban en route to Johannesburg and other major industrial areas in the vicinity, actual transit time from Port Elizabeth to Botswana is far better than transit times from Durban to Botswana. If cargo were coming via the Cape, the transit time difference would be even more greatly in favour of Port Elizabeth.

25. The vast majority of Botswana's direct imports is brought up from the ports by rail because the internal transport policy of the Republic of South Africa, designed to protect the railways from road competition, also applies to goods destined for other countries. Imports can either be unloaded at one of the railheads at the border, Mafeking or Zeerust, or can be taken across the border by Zimbabwe Railways. No information is available about the proportion of goods which goes across the border directly by rail and the amount that is trans-shipped into trucks at the border. Given the cost structure of the railways, one suspects that only high rated commodities, travelling relatively short distances inside Botswana will be off-loaded at the border.

26. Botswana's exports are dominated by two commodities namely chilled and frozen beef and copper-nickel matte. These, together, account for over 90 per cent of the export tonnage. All Botswana's production of chilled and frozen beef comes from the Botswana Meat Corporation's abattoir complex at Lobatse, 50 km from the South African border. Cattle are transported to the abattoir from the outlying areas of Botswana and there they are slaughtered, de-boned, packed, chilled, etc. The chilled beef is then either taken by road and rail into South Africa or taken by refrigerated rail wagons to Cape

Town. At Cape Town, the beef is stored at facilities provided by the Cold Storage Company on a permanent basis and then shipped to Europe, primarily to the United Kingdom. The copper-nickel matte is mined and processed at Selebi-Phikwe. All the matte is exported by rail to Maputo, from where it is shipped to the United States of America, where it is refined.

27. The railways in Botswana consist of a 640 km main line and two branch lines Serule-Selebi Phikwe (57 km) and Palapye-Morupule (15 km), in total 714 km. The railway system is owned and operated by the National Railways of Zimbabwe for the time being. However, the Government of Botswana is in the process of taking over the system from 1 January 1987.

Priority Programme

Railways[1/]

(i) Rehabilitation of the main railway line (SADCC)

28. All rails and sleepers with a few exceptions were second-hand when laid in Botswana since 1961 from the Zimbabwe border southwards. After the track was constructed, only normal maintenance has been carried out but no systematic renewal of the track has been initiated. The track, especially deteriorated sections, is now fast approaching a stage where severe speed and axle load restrictions will have to be applied. Therefore, the renewal of the track or improvements of some bad section is urgently needed in the following order of priority: (1) Gaborone-Southern Border (120 km), (2) Francistown-Northern Border (85 km) and (3) Gaborone-Francistown. Some rehabilitation of sections (2) and (3) might consist of spot improvements. The new track will consist of 50 kg/m longwelded rails on monobloc concrete sleepers with first-fastenings. Financing has been secured for the rehabilitation of the 120 km stretch Gaborone-southern Border and partly for the stretch Francistown-Northern Border (85 km). The works are in progress on section (1). Additional financing is being sought. Out of the total resources requested amounting to US$ 96 million only US$ 18 million has been secured.

1/ A rehabilitation project of railway telecommunication facilities costing about US$0.5 million is being funded from a bilateral source. The project consists of the following parties:

- 12 Channels carrier frequency system; plus one additional pair of wires between Gaborone and Francistown, including installation;
- Replacement of the existing selector system with a modern selector system with AF-signalling connected at 24 stations and;
- Public Automatic Branch Exchange (PABX), IN Ericsson digital ASB 100 exchange with a maximum capacity of 128 lines, to replace the present 30-line PABX in Gaborone.

29. Bilateral funding has also been found for the renewal of the train working system. The estimated cost is US$5 million. The renewal of the train working system includes the installation of colour light signalling for the main railway line. The present system of train working in Botswana is by paper facsimile machine which is a simple repeater machine transcribing an order written out at station A to station B. A copy of this order is handed to the driver of the train and the guard. This system is susceptible to human error and requires a very high level of experience and competence. These machines are now life expired and the system will be replaced. To facilitate train working in a reliable manner, basic colour light signalling will be introduced for the whole line from the Southern to the Northern Border. The rehabilitation of overhead telecommunication lines will be used also for signalling purposes. The points will remain manually operated.

(ii) Maintenance railway depot (SADCC)

30. The objective of the project is to provide facilities and equipment for basic maintenance of locomotives and wagons. Botswana is in the process of building its rolling stock fleet. Altogether, 12 diesel electric locomotives, 47 high sided wagons and 13 water tanks have been acquired by now. Probably, 15 (in addition to the 12 already purchased) new main line locomotives for the old line will be acquired by 1987. Ten more units are needed for the planned eastern link. Altogether, 450 new wagons are needed for the old line and 100-1,200 coal wagons for the eastern link. No passenger coaches are included in the plans.

31. It is intended that basic maintenance of these assets should be done in Botswana to suit operational convenience. The proposed facility will be located at Mahalapye. The project will consist of a depot building, office block, garage and equipment required to make it fully operational plus housing for the staff. In addition, the smaller wagon repair track at Palapye shall be provided with buildings and hardstanding.

The breakdown of the costs at current prices is as follows:

- Depot building	USD 1.2 million
- Office and amenity block	USD 0.2 million
- Civil engineering works	USD 1.9 million
- Equipment for Depot	USD 1.0 million
- Break-down train and equipment	USD 0.6 million
- Improvements to Pelapye repair track	USD 0.1 million

32. A project description with cost estimates has been prepared. There are good prospects for bilateral funding.

Communications

33. The Decade Programme has identified two priority communications projects which will contribute to improved services. These are: improvement of the short wave broadcasting network (US$ 2.6 million) and the improvement of the very high frequency (VHF) broadcasting network.

BURKINA FASO

Corridor system

34. Burkina Faso's primary access to the sea is the route to the port of Abidjan in Cote d'Ivoire reached by the railway operated by the "Regie des chemins de fer Abidjan - Niger (RAN)". The railway serves both Bobo Dioulasso, the main commercial centre and Ouagadougou, the capital city, extending 1147 km from Ouagadougou to Abidjan. Abidjan can also be reached by road from Ouagadougou (1195 km).

35. Three quarters of the external trade of Burkina Faso use this corridor and 80 per cent of the corridor's traffic is to or from overseas. The other principal alternative transit corridor is via Togo to Lome by a surfaced road (994 km) mostly in Togo (75 per cent), which carries one quarter of Burkina Faso's external trade, 60 per cent of the traffic being from or to overseas. Another route that could be used is the fully surfaced road to Tema (Ghana) (1035 km). The Government is also considering an alternative route to Cotonou through a mainly earth road. Burkina Faso is working on a five year plan (1986-1990), not yet finalized, which will identify priority transit transport projects.

Priority programme

36. Freight on the railway to Abidjan is markedly tending to decrease to the advantage of road transport. The rehabilitation of the railway is consequently a top priority. The roads to Abidjan and Lome are surfaced on Burkinabe territory. However, the road on the Cote d'Ivoire side of the Abidjan corridor, near the Burkina border, is unsurfaced and in poor condition and a modern surfaced road must be built.

37. On the other hand, Burkina Faso has included in its priority programme two surfaced road projects that are of importance for the transit traffic of Mali and Niger. The building of these roads that are of especial importance to the two latter countries poses the problem of financing a country's necessary investments in a third country, and of their maintenance.

Burkina Faso - Abidjan Corridor

38. By road: the condition of the road is good throughout except for a 70 km section in Cote d'Ivoire from the Burkinabe border to Ferkessedougou. This section, which is very poor during the rains, has still not obtained any financing even for technical studies (project ROP 21.001).

39. By rail: a rehabilitation programme for the Abidjan - Niger railway is underway. A first phase financing of 4 billion CFA Fr. has been obtained. A second phase will later be finalized but will not include either of the two projects proposed by Cote d'Ivoire which are only necessary in the medium term (re-alignment and doubling of the track at certain sections, RAP 21.001 and RAP 21.002).

Niger - Cote d'Ivoire Corridor via Burkina Faso

Fada - Piega, 60 km, financed by EEC, completed in 1984.

Piega - Niger border, 127 km, under construction with financing from Kuwaiti and Saudi funds. To be completed in 1986. Mali - Togo Corridor via Burkina Faso

Project ROP 47.001 for the Burkinabe section and project ROP 28.001 for the Malian section:

Ouagadougou - Yako - Ouahigouha - Mali border, (247 km) and Mali border - Koro - Bankass - Sevare, (183 km).

The Ouagadougou - Yako section is a good earth road that was upgraded with EEC financing in 1985.

Burkina Faso - Benin Corridor

40. The two projects already identified under the Decade programme are intended to open a corridor between Burkina Faso and Benin.

41. On the Burkinabe section (project ROP 47.003) 122 km are under construction, with African Development Bank and Norwegian financing, from Fada via Pama to Tindangou (5.2 million CFA Fr.). The last 20 km to the border remain to be financed. On the Benin section, construction is necessary from the Burkinabe border via Djougou to Savalou, 414 km, to connect with the railway or the road to Cotonou, Project ROP 03.006 concerns financing of technical studies for the 191 km from Porga to Djougou, and project ROP 3.001 is the surfacing of the road from Djoungou to Savalou. A 1.2 billion CFA Fr. project with EEC financing is programmed to rebuild or reinforce bridges from the border to Djougou. Financing has also been obtained from the Islamic Development Bank (IDB) for the design studies and tender documents for surfacing from the border to Djougou. The design studies will be completed by the second half of 1986.

42. Construction is estimated to cost (at November 1984 prices):

- from the border to Djougou - 15.1 billion CFA Fr.

- from Djougou to Savalou - 17.1 billion CFA Fr.

Railway dry port

43. The Government also gives priority to construction of facilities in Ouagadougou to handle containers and general freight either from or to Abidjan. An UNCTAD/SPLDC study has been carried out and the project will cost about 700 million CFA Fr.

Other projects

44. Burkina Faso's transport development policy covers the whole field including strengthening the Conseil Burkinabe des Chargeurs (CBC), the Burkinabe transporters' council and the renegotiation of a regional transport convention with transit countries. A project for strengthening the CBC is under study by UNCTAD and should result in financing for 50 million CFA. As to the renegotiation of regional transport agreements, joint action is planned by Burkina Faso and UNCTAD to establish a model road transport accord and to identify a new political framework to replace the regular meetings of the Conseil superieur des transports terrestres (Land transport council) within the Conseil de l'Entente. (Togo, Niger, Cote d'Ivoire, Burkina Faso, Benin as members and Mali and Senegal as observers).

45. Regarding telecommunications, two PANAFTEL routes are still not financed: the route Fada N'gourma (Burkina Faso) - Natitingou (Benin) 200 km, which will provide direct communication between Benin and Burkina Faso and the link Ouagadougou - Bolgatanga (Ghana) to carry traffic between Ouagadougou and Accra. A third project is the reinforcement of the Ouagadougou - Lome - Cotonou microwave links.

BURUNDI

Corridor system

46. Burundi has two corridors to the sea. The central corridor via Tanzania to Dar-es-Salaam, which handles 90 per cent of Burundi's overseas trade. The northern corridor via Rwanda, Uganda and Kenya to Mombasa is used for the remaining 10 per cent of the country's external trade flows.

47. The central corridor consists of the lake route between Bujumbura and the Tanzanian lake port of Kigoma (175 km) and then the rail route to Dar-es-Salaam (1253 km). The main problems along this corridor are related to the lack of adequate warehousing and trans-shipment difficulties at Kigoma and the limited capacity of the Kigoma/Dar-es-Salaam railway.

48. The northern corridor provides a road route from Bujumbura to Mombasa (2022 km). This road is however in a poor state both in Uganda and in Kenya near the Ugandan border.

Priority programme

49. The central corridor via Kigoma requires few developments in Burundi other than eventual extension of Bujumbura port and construction of a shipyard (project IHP 05.001) for which the feasibility study has just been completed. Substantial investments are however needed in Kigoma and along the TRC central railway. Such projects, although not identified under the Decade programme, should have top priority. But the overall necessary financing exceeds the limits of a short term programme. A detailed analysis should be made in Tanzania jointly with TRC to determine the most urgent needs: essentially purchase of wagons and locomotives, handling facilities at Kigoma and establishment of a wagon traffic monitoring and management system.

50. Also in the context of the central corridor is the possibility of a road-rail route as an alternative to the lake - rail route which is:

- by road from Bujumbura via Kayanza (PK 93), Ngozi (PK 125), Muyinga (PK 202) to the Tanzanian border at Kobero (PK 227). The road is now surfaced as far as Muyinga and it is therefore possible to connect via Rulenge (PK 277) in Tanzania with the road to Isaka (PK 590) which is already surfaced from near Rulenge to Rusahunga (74 km) and presently under construction between Rusahunga and Bukumbe (127 km; EEC financing) from where a relatively good earth road (112 km) exists to Isaka where the route connects with the railway to Dar-es-Salaam (902 km). Priority should be given to the cross-border road on both sides of Kobero. The Tanzanian section is included in the Decade programme (project ROP 43.004), but on the Burundi section, no project has as yet been specified (only internal disenclavement arteries have been put forward by Burundi). Redirection via Isaka of some external traffic would require Burundi to negotiate facilities at Isaka similar to those obtained there by Rwanda.

51. The northern corridor: certain sections in Burundi presently need repairs and more generally regular, upgraded maintenance must be organized to avoid the imminent threat of rapid deterioration. The road however is now in a poor state on the Uganda sections and two feasibility studies are underway (Masaka - Lubale, 132 km and Kampala - Jinja 80 km). These projects are essential, as is the overall upgrading of the entire Uganda section to permit legal passage of trucks with axle loads presently operating in its neighbouring countries (11 tons against 8 tons in Uganda). Concerning international telecommunications, there are two important projects. The first is a PANAFTEL link between Ngozi and Butare (Rwanda) which is included on the Rwanda side under the Decade programme (TEP 35.003), but not in Burundi. The second is the link Bujumbura - Songa, presently being established to permit communications with Dar-es-Salaam when the Songa - Kigoma link, presently being negotiated, is also established.

Other projects

52. To reduce Burundi's enclavement, it is necessary to ensure more secure, more rapid and less costly transit transport. To achieve this requires rationalisation throughout. Burundi should establish in this regard a body to monitor and, where possible, to expedite traffic. This project is to be implemented with UNCTAD support and is estimated at about US$100,000. Burundi must also negotiate a series of agreements with Tanzania, the TRC (regarding the railway and Kigoma port) and the Tanzania Harbour Authority (THA - regarding Dar-es-Salaam port and Belbase facilities) to obtain:

a) clearly defined lake port and marine harbour facilities open to all forwarders serving Burundi and;

b) a rail service guaranteeing a regular number of wagons for Burundi.

53. Finally, regarding the northern corridor, the Northern Corridor Transit Agreement signed in February 1985, in Bujumbura, has not yet been ratified by at least two of the four signatories and has not yet begun to be applied. This situation shows clearly the difficulties faced by a land-locked country in defending its legitimate concerns without the understanding, support and goodwill of the transit State(s).

54. An important development requiring no external funding would be for countries concerned (land-locked and transit) to effectively reduce difficulties of transit traffic, often as much due to lack of will as to lack of facilities. Consideration should be given to means and conditions for the necessary actions to be taken to ensure concrete expressions of regional co-operation indispensable for the development of the land-locked countries.

CENTRAL AFRICAN REPUBLIC (CAR)

Corridor system

55. The CAR has two main disenclavement corridors:

Bangui - Congo to Pointe-Noire, by river to Brazzaville (1200 km) and then by the Congo-Ocean railway from Brazzaville to Pointe-Noire (510 km). The main characteristic of this route is that river trafic is interrupted yearly for at least three months between February and April.

Bangui - Cameroon to Douala with an alternative on the Cameroonian sector, either: Road or road/rail with trans-shipment:

56. From Bangui to N'gaoundere by road (877 km), and then N'gaoundere to Douala by the Regie Fercam railway (925 km) or: road throughout with no break, from Bangui via Garoua-Boulai, Bertoua and Yaounde to Douala, 1493 km of which 273 km are surfaced. The Central African Republic is presently working on its next five-year plan, 1986-1990, and relevant projects are not yet finalized.

Priority programme

57. Under present programming, the main project underway is the road east to Zaire (project ROP 08.002) to be completed by 1986-87, including: Damarie, Sibut (surfaced with EEC financing); Sibut - Bambari (earth road, IBRD). In addition, the road west of Chad,Sibut - Sido (IBRD, project ROP 08.005) is being upgraded and will disenclave the Sarh region of southern Chad. It should also be noted that project ROP 08.003 is also underway with ADB financing and that the section it covers from Bangui to M'Baiki could eventually be extended to Carnot (project ROP 08.005, 324 km) and that this road, otherwise known as the "Fourth parallel" highway, will shorten the distance to Douala to 1300 km.

Bangui - Cameroon Corridor

58. The 440 km road construction project Bassembele - Garoua - Boulai for which a preliminary design study has already been completed (project ROP 08.001) and which is the crucial artery to Cameroon, has not as yet obtained financing apart from EEC/France financing for rebuilding of bridges. In the Cameroon, several projects that would improve the road to Douala are still awaiting financing. The priority here is ROP 06.007 (313 km) Garoua - Boulai - Bertoua - Yaounde. The Kribi - Yakadouma road (700 km, ROP 06.002), intended to connect with M'baiki - Carnot in the CAR, can only be considered in the medium-term.

Bangui - Congo Corridor

59. The Programme national d'action (PNA, 1982-85) included upgrading of barges, purchase of a petroleum product train (3 barges and a tug, project IMP 08.002, 400 million CFA Fr.) and improvement of the shipyard including extension and modernization of slipways (project IMP 08.001) only proposed a study for construction of a small boat yard). Financing amounting to 2 billion CFA Fr. was programmed and 1.8 billion has so far been released (rehabilitation of navigation equipment and of tugs, construction of barges ...) For the period 1986-1990, the barge fleet potential will be maintained by new building and rehabilitation, building of tugs and projects for infrastructural facilities, all totalling 8 billion CFA Fr.

Other projects

60. The priority project is for development of road haulage on the Cameroon corridor to Douala, totalling 5.5 billion CFA Fr. (Pluri-sectoral Round Table 1985-TRS), including:

- Civil engineering and equipment (border posts, container terminal at Bangui and rehabilitation of dry port facilities);
- funding arrangement for renewing truck fleet;
- installation of computer facilities to facilitate monitoring and management of road haulage; and,
- a training programme for drivers, artisan hauliers and mechanics.

61. Regarding communications, the links between Bangui and Ngoundere, Douala (Cameroon), and between Bangui and Brazzaville - Pointe Noire (Congo), need to be rehabilitated and upgraded. Two projects have been included by CAR within the Decade, and are not yet financed: TEP 08.001 with Cameroon and TEP 08.002 with Congo. In Congo, the main project is "the realignment of the Brazzaville-Pointe Noire coaxial cable".

CHAD

Corridor system

62. Chad has three possible corridors via neighbouring countries to ocean ports:

- via Cameroon to Douala;
- via Nigeria to Lagos;
- via the CAR and Congo to Pointe Noire.

63. The three corridors have common characteristics in that nearly the entire route is in the transit country or countries. Thus Chad is dependent on its neighbours infrastructures and equipment. It is also dependent on them for any improvement in its transit life-lines. The table below gives distances from N'djamena to its three main maritime outlets, and, in brackets, the length of corridor outside Chadian territory:

Douala - 1725 km (1725 km)
Lagos - 1995 km (1995 km)
Pointe Noire - 2900 km (2225 km)

64. Use of the transequatorial corridor by road to Bangui, then by river to Brazzaville and finally by rail to Pointe-Noire is little used in view of the distance and of the number of trans-shipments. Indeed, even for the economic centres south of the country (such as Moundou and Sahr), the distance, about 2300 km on average, is greater than to Douala (1900 km), although rational organization could make possible profitable use of the rail and river transport potential which is generally more economic than road transport.

Priority programme

65. The project selected in the Central African Republic under the Decade programme, ROP 08.006 for a 324 km road from the Chadian border to Sibut and Sido, included under the next CAR five-year plan 1986-1990, can be a useful disenclavement artery for Chad on the condition that the Chadian road section is also upgraded. However, the latter does not specifically figure among projects selected for the donors' Round Table Conference.

66. The Cameroonian and Nigerian corridors have numerous advantages in common: large capacity and well-equipped ports, excellent road infrastructures in Nigeria and much improved in Cameroon, and rail connections providing cheap transport on rail sections. However, although Nigeria is Chad's main external trading partner, it is very little used for transit because of political difficulties and the lack of a transit agreement between both countries.

67. Cameroon offers many facilities and as a result most Chadian transit transport is via Douala. This route however necessitates trans-shipment as the railway is used between Douala and Ngaoundere and road between Ngaoundere and N'djamena. The excellent condition of this road, entirely surfaced, makes possible rapid rotation of trucks.

68. Similarly, to disenclave Southern Chad project ROP 09.004 (116 km) between the Cameroonian border, Lere and Moundoy (Lere - Sahr is already well maintained) has been approved under the Decade Programme but is not considered a priority item in the context of the Round Table Donors' Conference. It could become an important route. It connects with ROP 06.004 in Cameroon (studies and construction of the orad between Ngaoundere and the Chadian border, 313 km) and then the railway. The complete road, including both the Chadian and Cameroonian sections, is estimated to cost about US$100 million.

69. Cameroon Railways have a very important function for Chad, especially as a new road is to enter service between Douala and Yaounde that can take part of the rail traffic on that sector leaving greater rail capacity for traffic to the far north and transport time can be reduced. In addition, rehabilitation of the Douala - Yaounde rail section will also increase speed and safety on that part of the network.

Other projects

70. If the Cameroon corridor is to be considered as the preferred route for Chad's transit traffic, several other associated projects are necessary in the short term:

- increase of rolling stock of the Regie Fercam, including the possibility of acquiring wagons exclusively for Chad traffic;
- re-establishment of Chad's heavy truck pool so that Chad be less dependent on Cameroonian hauliers;
- assistance to Chadian hauliers through strengthening of the Co-operative des Transporteurs Tchadians (CTT) - the Chadian hauliers' co-operative and by developing associated activities such as training of international truck drivers, workshops for repairs etc; and
- establishment of a user's council to monitor transit freight traffic (imports and exports), to ensure smoother and more rapid movement, and to negotiate tariffs.

LESOTHO

Corridor system

71. Since the volume of Lesotho's direct overseas trade is small, the possibility of using charters to ship commodities to the South African ports is unlikely. The food aid agencies are probably the largest individual importers of bulk commodities into Lesotho from overseas who, only on an ad hoc basis, have arranged for charters. Even if the volume of bulk imports justified the use of chartered ships, present storage capacity within Lesotho would be insufficient for such large periodic consignments. As a consequence, even the food agencies use the conference lines with fairly small individual consignments. It seems very probable therefore that for the foreseeable future, Lesotho will necessarily depend upon conference shipping for its access to countries overseas.

72. As a result of membership of the South African Customs Union, all Lesotho imports from overseas are cleared and duty is paid, where necessary, at the original point of entry into South Africa. Though goods can be carried bonded to Lesotho, this is very unusual and Lesotho presently lacks the facilities for large scale movements of this type. Special transit arrangements are not required and goods destined for Lesotho are treated in a similar manner to goods consigned to destinations within South Africa itself. Transit goods to Lesotho are therefore subject to internal South African transport policies which generally favour freight movement by South African Railways.

73. Except for consignments to Maseru, Lesotho's transit system is as follows: cargo moves from the port by rail up to a railhead in the Republic. In the case of Maseru, which has a rail station, the road movement from railhead to Lesotho is unnecessary. Although Lesotho uses a number of entry points into South Africa for its overseas trade, Durban and East London are the most important. The other entry points are Jan Smuts Airport and Port Elizabeth. Durban is by far the largest port in South Africa, handling over 50 per cent of total South African trade. During the 1970's, considerable improvements in the port were undertaken. A major development was the encouragement of containerization. Durban has been developed into a major container port, linked with the development of an inland container terminal at City Deep in Johannesburg. To encourage the use of containers, a special nightly train has been introduced together with traffic which is cost-based rather than commodity based. This tariff applies to all imports irrespective of commodity type, though special commodity-based promotional tariffs are given in the case of exports. These special rates are applicable however only between Durban and Johannesburg and these do not affect Lesotho which, if it uses containers, still has to pay according to the commodity. Lesotho's trade is however in volume and value terms, of negligible importance to the port operation of the transit country.

74. Maseru is the main entry port for imports into Lesotho, especially for goods actually imported rather than brought across the border by individuals. It has the only railhead inside Lesotho territory and thus at all other points, goods have to be unloaded in South Africa and brought across the border by truck. The arrangements for this road operation vary

from railhead to railhead. For some of the routes, goods are brought by Road Motor Services, the trucking subsidiary of South African Railways, on other routes individual contractors, usually South Africans, are used. At most of the railheads where private trucking firms are used, there is usually little choice of transporter.

75. There are no rail lines within Lesotho and, though expanding, the road network is still limited in coverage and in quality. Major efforts are being made to improve the quality of the road network and this is a major priority area of the Government. In many areas of the country, road access is either very rudimentary or non-existent and the final delivery to the destination is made by pack animal.

76. Experience with the operation of the transit system does indicate that losses of cargo do occur, but it is not a widespread phenomenon. Normal insurance premiums are paid in Lesotho for the movement of goods from overseas to Lesotho: normally about 1 per cent of f.o.b. value. Lesotho has the advantage that it is dealing with one railway system which also runs the ports. This avoids the situation of rail claims in many other areas where responsibility for loss cannot be absolutely determined and is then denied by all. It would appear that though it takes some time, claims against South African Railways are eventually paid. Greater damage and loss occur on the trip from railhead to final destination in Lesotho, particularly when this involves poor quality mountain roads. Losses in storage are also thought to be much higher than those found in the transit system.

77. With respect to transit procedures, any goods imported from outside the Customs Union must be cleared and duty paid at the first port of call in South Africa (in the case of Lesotho usually either Durban, East London or Jan Smuts Airport). Lesotho has no control at the ports, no special transit facilities and no permanently based liaison officers. South African customs have the discretion over which duty to charge, although Lesotho can negotiate the duty on particularly important consignments. There are no special transit documents required and the documents needed are essentially those used by traders in South Africa. Clearance of goods at the ports is carried out by South African or international clearing agents. There are no Lesotho clearing agents at the ports as their presence is made difficult by the requirement that they be South African residents. There is one partially Lesotho-owned clearing agent in Lesotho, but it acts as a business generator for the large South African partner company. From the evidence available, it would seem that the main problems faced by Lesotho with regard to transit procedures are:

- periodic problems of communications with the ports;
- absence of branches of clearing agents in Maseru;
- difficulties of correct documentation of goods within Lesotho;
- potential problems of setting up an independent customs service, should the present Customs Union arrangements be radically changed.

78. An overall assessment indicates that the major problem areas in the present system seem to be as follows:

- the protection afforded to South African Railways and the restrictions placed upon the use of road transport in South Africa;
- the lack of cost-based tariffs on the railways;
- the absence of guaranteed rail service times from the ports and the subsequent high costs of moving to containers from overseas trade;
- high port charges;
- the restrictions upon Lesotho transporters collecting goods from the railheads;
- high internal costs of transport within Lesotho and the dominant role of foreign owned vehicles in the domestic transport industry;
- slow transit procedures, particularly with regard to international trade goods.

Priority programme

Roads

(i) Upgrading of the road Mohale's Hock-Quitting-Qachas-Nek (SADCC)

79. the aim of the project is to decrease Leostho's dependence on the South African transport network. The road will also be important for the development of the southern and south-eastern parts of Lesotho. The Mohale's Hock-Quitting road section is 51 km and needs to be upgraded to bitumen standard. The total cost of the project is estimated at US$ 2.6 million. Partial financing has been secured and work is underway. The Quthing-Mount Moorosi, Mphaki-Oakas Nek road section is 155 km and needs to be reconstructed to gravel standard. US$ 23 million of the total cost of US$ 40 million has already been secured. The road design has been completed and the reconstruction work is already underway. The Moorosi-Mphaki road section, which is some 59 km long, has been realigned to gravel standard. Financing amounting to US$ 18 million is available.

(ii) Upgrading and reconstruction of the road: Taung - Makhotlong-Sani Top (SADCC)

80. The aim of the project is to connect the eastern part of the country with the district headquarters at Thaba Tseka and with the road to Maseru. This is a priority project for the Government. Planned standard is bitumen surfacing with mainly 8 m. wide formation (6 m. carriageway and 2 x 1 m. shoulders), except 7.2 m. on rocky sections. The forecasted traffic volume for 1985 was 160 vehicles per day between Taung and Mokhotlong and 75 between Mokhotlong and Sani Pass.

81. During the last year, some spot investment works have been carried out on the road section Thabang-Sani Pass in order to upgrade the road to all weather standard. These works have been financed by the World Bank under the Third Highway Project. As a result, the traffic on this road section has increased from about 10 to 50 vehicles per day. Despite the above mentioned spot improvements, the road section needs more extensive upgrading. A feasibility study and engineering designs have been completed. Financing for the upgrading and reconstruction works is being sought.

(iii) Construction of a new road: Ramabanta - Semonkong - Sekake (SADCC)

82. The road connects the south-eastern part of the Lesotho Perimeter road directly to Maseru, thus integrating this part of the country with the capital. The connection will reduce the dependence on the South African transport system. The existing track Ramabanta-Semonkong is passable by four-wheel drive vehicles only in good weather. Between Semonkong and Sekake, there is no road at all.

83. The feasibility study completed in 1979 shows a low viability for the construction to bitumen standard of the road section Semonkong-Sekake. The whole road passes through mountainous terrain with rough conditions. Design of the section Ramabanta-Semonkong has been completed. The implementation of this section is estimated to cost US$ 15.7 million and the design and implementation of the section Semonkong-Sekake US$ 16 million (1985 prices). Financing is being sought for the section Ramabanta-Semonkong, which is the more urgent of the two sections.

(iv) Upgrading of the road Mokhotlong-Oxbow (SADCC)

84. The objective of the project is to upgrade to bitumen/gravel standard the road section Mokhotlong-Oxbow, 110 km. The section Mokhotlong-Oxbow is part of the main northern route linking Maseru through Butha-Buthe to the eastern and south-eastern part of Lesotho. At present, the section is a track through mountainous terrain, in some places negotiable only by four-wheel drive vehicles in the dry season. The engineering design has been completed under multilateral funding. Financing is required for upgrading work. The total cost of the project is estimated at US$ 23 million.

(v) Upgrading of the road Thaba-Tseka-Taung-Mpiti (SADCC)

85. The project is part of a scheme to reduce the dependence on the South African transport system. This section is part of the north-south road connection in eastern Lesotho. Extensive agricultural projects are in progress in Thaba-Tseka area with support from bilateral sources. The road is important for this scheme. The existing road is a simple track in bad condition. A low-level bridge is not passable during the rainy season. Stream crossings and drainage have to be reconstructed. Planned standard is Gravel 3, which means 6.0 m formation.

86. The feasibility study carried out shows a low viability of the project. However, the Government of Lesotho considers the road to be important and proposes the implementation in two stages:

1. Temporary improvements to be carried out soonest, cost estimate US$ 11.5 million (1985 prices);
2. Final upgrading works to be implemented starting 1993, cost estimate US$ 19 million (1985 prices).

87. The cost of engineering design is estimated at US$ 530,000. Financing is being sought now for the design of the road and the implementation of the temporary improvement (1st stage).

Other projects

88. There is a study on two pilot road maintenance centres, which has been identified by the Decade Programme and which is of critical importance (US$ 2.5 million).

Railways

(i) Establishment of a container terminal in Maseru with customs facilities (SADCC)

89. Lesotho is connected to the South African railway system by a single track line which terminates at Maseru, 2 km inside the country. Goods traffic handled at Maseru station has averaged some 160,000 tonnes p.a. and it is expected that it will increase to about 420,000 tonnes p.a. by the year 2000.

90. At present, overseas containers must be opened, regrouped and cleared at South African ports, usually in Durban, due to the absence of a customs terminal and the lack of adequate clearance procedures and handling facilities in Maseru. These result in delays and additional costs compared with possible through shipments to and from Maseru. Containerization is growing rapidly also within the Southern Africa Customs Union area, of which Lesotho is a member. In the absence of adequate facilities, Lesotho can only marginally gain in this respect. On these grounds, a project plan has been prepared for a container terminal with customs facilities in Maseru including the following: a rail spur, stuffing/stripping sheds (1000 m^2), administration building for the operator and customs, paving of the area, a gatehouse and security fencing plus a gantry crane and a forklift. A study on the feasibility of the project has been multilaterally funded. The financing for the implementation of the project which is estimated at US$ 1.4 million is being sought.

(ii) Expansion of oil storage facilities in Lesotho (SADCC)

91. The objective of the project is to increase oil storage capacity in Maseru to provide for 3 months strategic reserve. Lesotho is at present entirely dependent on South Africa for its supplies of fuel. To lessen that dependence, the project originally included acquisition of 84 tank wagons to transport oil products from Maputo and increase of oil storage capacity in Maseru. The plan to purchase tank wagons has now been abandoned since for the haulage of the wagons, South African motive power would have been needed. At present, only about two weeks supplies of oil products can be stored in Maseru. In the case of interruptions in deliveries, the country would have serious problems. Therefore, additional storage capacity to provide for 3 months strategic reserve is badly needed. Funding for the preparation of designs with costing is being sought. The cost of the project is estimated at about US$ 5.3 million.

MALAWI

Corridor system

92. In 1990-1991, there were five transit transport corridors for Malawian exports and imports to and from overseas markets: rail to Beira (distance - from Blantyre - 680 km); rail to Nacala (904 km); road/rail to Durban via Tete (2661 km); road/rail to Durban via Lusaka (3779 km); and road/rail to Dar-es-Salaam via Lusaka (3155 km). In addition, goods could be shipped by air from Kamuzu International Airport (near Lilongwe) and Chileka Airport (near Blantyre).

Rail to Beira

93. Beira is only 254 km by road from the Malawian border but the railway is a single line track, sections of which have badly deteriorated. The port of Beira can receive ships of up to 25,000 dwt, has 10 berths, and can handle bulk and break-bulk cargoes and Ro-Ro traffic. The port is also used as a transit depot for Malawi's petroleum fuels. Cranes and handling facilities are adequate and transit cargo storage of up to 69,000 m^2 is available.

Rail to Nacala

94. Nacala, which is 615 km from the Malawian border, is a newer port which the Mozambique government has designated as a specialised container port. Handling facilities for containers are good and covered transit cargo storage of 24,000 m^2 is available but it has limited facilities for break-bulk traffic and is thus not very suitable for either sugar or fertilizer shipments. Moreover the physical condition of the railway line, particularly the 200 kms from Nacala-Nampula is poor, a factor which leads to problems in the rainy season. There is a rehabilitation programme in progress, but it has been hampered by insurgency activity. Furthermore, communications on the line are also poor.

Road/rail to Durban via Tete

95. This is the shortest route to Durban, entailing a transit distance of 2572 km through three countries - Mozambique, Zimbabwe and the Republic of South Africa. The worst sections of the route are:

- the road to the Malawian border at Mwanza, except for the 11 km paved section from Blantyre to Chileka, this 93 km link is gravel. EEC funds have been secured to improve alignment and pave the road, and

- the road through Tete Province (267 km) which is paved but has badly deteriorated up to Vete.

96. The roads through Zimbabwe are paved and good, and goods may be trans-shipped to the railway system in either Harare or Messina. At Harare, trans-shipment facilities for containers exist, but require expansion. At Messina trans-shipment facilities are good. The Zimbabwian portion of this corridor (from Harare to Sombula and Beit Bridge) is presently being electrified and the South African portion of the corridor is partly electrified.

97. Durban is the largest port on Africa's eastern seaboard and has no difficulty in accommodating Malawi requirements whenever necessary. It has 59 berths offering efficient handling facilities for bulk and break-bulk cargoes, and also for specialised cargoes such as pre-cooled citrus, bulk soda ash and molasses. The port itself has 92,526 m2 of covered shed space and there is a vast complex of warehouses and open storage area in the vicinity. The port can cater for 60,000 dwt carriers, and load 80,000 dwt ships for sailing at highwater spring tides.

Road/rail to Durban via Lusaka

98. This route entails a transit distance of about 3300 km. The road from Malawi to the Zambian border at Mchinji has a bituminous surface and is in good condition but the 686 kms road to Lusaka is inadequately maintained and deteriorating rapidly. After Lusaka, a number of options exist:

- trans-shipment in Lusaka, and then by rail (Lusaka - Livingstone - Bulawayo - Gaborone - Mafeking - Durban). Transshipment facilities are available but the container handling facilities require improvement. Zambian Railways service the route to Victoria Falls bridge and sections of the line are scheduled for improvement under an IBRD investment programme. In Zimbabwe, steam locomotives are used up to Victoria Falls as it runs through the Wankie coal producing area. The railway is operated by NRZ through Zimbabwe and Botswana and by SATS from the Botswana border to Durban (1047 kms). This section is partly diesel operated and partly electric. Services are good.

- by road through Lusaka to Harare or Messina, and then by rail to Durban.

- by road via Lusaka - Kazungula - Francistown - Gaborone - Mafeking - Zeerust and then with a trans-shipment to rail at Zeerust and onward to Johannesburg and Durban.

99. The road from Lusaka to Kazungula is paved with some sections requiring rehabilitation. At Kazungula, there is a ferry-crossing. Beyond Kazungula, in Botswana, there is a section of gravel road followed by a new section of paved road to the South African border at Mafeking. At Zeerust (in South Africa) there are trans-shipment facilities to link with the South African railway.

Road/rail to Dar-es-Salaam via Lusaka

100. This route entails the difficult 686 km stretch from the Malawi border to Lusaka and then either (i) 2045 km by rail, or (ii) 1975 km by road to Dar-es-Salaam. Beyond Kapiri Mposhi, 185 kms from Lusaka, the stretch is either on the Tazara railway or the Tanzam Highway. The Tazara railway is new but certain sections of the line have been subject to landslides and the locomotive situation is unsatisfactory. The Tanzam highway is in good condition in Zambia, but in Tanzania there are sections where its design-life has expired. It is currently taking 200,000 tons of international traffic per year, in addition to local traffic in Zambia and Tanzania.

101. The port of Dar-es-Salaam is fairly modern with facilities for conventional ships and some Ro-Ro facilities. There is a buoy for crude oil imports which can cater for very large tankers of 100,000 dwt. There is also a crude oil pipeline connection with Ndola in Zambia. Containers must be off-loaded by ship's equipment, but there is a project for developing and expanding container facilities. Also additional warehousing facilities are being constructed. Malawi's use of the port of Dar-es-Salaam has so far been insignificant. However, it has been estimated that the port can comfortably accommodate as much as 30 per cent of Malawi requirements, despite its current operational problems.

102. With respect to air transport, Malawi has a number of weekly scheduled flights with Zambia, Zimbabwe and South Africa, and once weekly with Mozambique and Tanzania. As the new Lilongwe airport can accommodate wide body aircraft, there is likely to be a major re-arrangement of international air services, starting with the two flights per week already operating to Europe (London and Paris, respectively).

Priority programme

Railways

(i) Rehabilitation of the Salima-Southern border railway (SADCC and Decade programme)

103. The objective of the project is to rehabilitate and upgrade the 469 km section between Salima and the Mozambique border to bring it up to a standard which can ensure safe and uninterrupted train operations. The Balaka-Southern border section was originally built to very low standards. Since 1973, improvements have been made largely with British aid so that most of this section is now in good condition. Rerailing and resleepering is needed however, here and there.

104. The stretch from Balaka to Salima (469 km) is in poor condition. Renewal of ballast, rails and sleepers are in the programme. Some rehabilitation works are also to be carried out between Balaka and the Southern border. The rest of the Malawi Railway lines are in good shape, equipped with 40 kg/m longweladed rails on concrete sleepers.

105. Related to the rehabilitation, the plan includes the reopening of the concrete sleeper factory at Salima. The factory was closed in 1980 when the new line between Salima and Mchinji was completed. To produce sleepers for the above rehabilitation and for normal replacements, a production of about 150,000 units in three years is planned.

106. A study on Malawi Railways has been completed with bilateral funding. In this report, a 2-phase programme for rehabilitation has been proposed. For the first phase, K 3 million have been committed by a bilateral source. An evaluation mission to Malawi to evaluate the needs for the second phase of the programme is being planned. It is expected that the project will be financed bilaterally and the Government of Malawi. The total cost is US$ 20 million (current prices).

(ii) Supply of Railway Rolling Stock (SADCC)

107. The aim of the project is to provide adequate transport capacity for the transportation of Malawi's exports and imports to and from Mozambique ports. From March 1976, when the Mozambique-Zimbabwe border closed until October 1980, Malawi Railways had the use of 272 goods wagons owned by the National Railways of Zimbabwe, wagons which were returned to Zimbabwe when the border was opened. In spite of enforced withdrawal of wagons from service because of obsolescence, there are still nearly 300 wagons out of the total of 769 which are over 20 years old.

108. The bulk of Malawi's exports and imports is now carried in containers. Container wagons are needed to meet the demand. The project includes the purchase of 180 additional wagons for the above purposes. The cost estimate at current prices is US$ 9.0 million, based on the assumption that the wagons can be bought from the Southern African Region. Bilateral funds amounting to US$ 3 million have been obtained. The rest is being sought from a multilateral source.

Roads[1/]

(i) Study on the upgrading of the road Mangochi - Chipoude/Mandimba-Mitande (SADCC and Decade programme)

109. The objective of this project is to open up a link from the central part of Malawi to Mozambique and the nearest ports, Pemba and Nacala. The road link is also expected to serve as a through-pass between various provinces of Mozambique, i.e. Niassa, east of Malawi and Tete, west of Malawi. The road will be of importance in accelerating agricultural development in the area.

1/ Financing for the rehabilitation of the Zimbabwe-Tete-Malawi road has been secured. The project work is underway. The aim of the project is to provide a road link of suitable standard for traffic Zimbabwe-Malawi, Mozambique-Zambia and Mozambique-Malawi. It is also part of the main road link to the Province of Tete.

110. The existing road has been realigned and improved on one section near Mongoche and one section above the escarpment to Namwera. The section up to the escarpment is of a very low standard with narrow hairpin bends, damaged surface and dangerous bridges. The section between Namwera and Chiponde is an earth road in a bad condition. The pass across the border is a track usable only by fourwheel drive vehicles. The route in Mozambique is an earth road which is expensive to maintain. The topography traverses easy, gently undulating terrain.

111. The average daily traffic in 1977 was 119 vehicles at a point below the escarpment in Malawi. This might by 1980 have reached about 150 vehicles. According to the records kept by the customs, the border was in 1979 and 1980 passed by 3-13 vehicles per month. The construction cost is estimated at US$ 29.5 million in 1983 prices. Terms of reference for feasibility and engineering studies have been prepared. Financing of the feasibility study is being sought. The cost is estimated at US$ 0.2 million.

(ii) Study on the upgrading of the road Blantyre - Mulanje/Milange - Mocuba (SADCC and Decade programme)

112. The aim of the project is to provide an all-weather road connection between Malawi and Mozambique, constructed to class 1 bitumen standard. The road link will serve the trade between the two countries and provide a link between Malawi and the ports of Mozambique, especially Beira. The road in both countries passes through rich agricultural areas which are under development for local consumption and export. The road is also of touristic interest. The existing road in Malawi (103 km) is on most of the sections bituminized to a single land width which is not sufficient for the existing traffic. The load bearing capacity is insufficient, the drainage cannot cope with the heavy rainfalls and the alignment is poor. Thus, the maintenance costs are high. An alternative routing in Malawi is along an existing gravel road which is 87 km long.

113. In Mozambique, the existing road is a 6 m. road of mainly earth standard, the alignment generally following the terrain. Existing conditions are poor. The traffic density on the Malawi section varies from more than 600 to less than 50 vehicles per day. In Mozambique, the traffic flow in 1983 has been estimated not to exceed 100 vehicles per day. A traffic count in 1979 shows an average daily traffic of 30 trucks per day. The border was in 1979 passed by an average traffic of 3.6 vehicles per day. This figure is expected to increase rapidly due to the expected development of foreign trade and regional co-operation and to improved road conditions. Terms of reference have been prepared for feasibility and engineering studies. Engineering designs exist for about 100 km of the Mozambique section. Financing for the studies is being sought. Bilateral funding is in prospect. The total cost of the project is estimated at US$ 1.1 million (current prices).

(iii) Road link Karonga-Mbeya (SADCC)

114. The project will involve the provision of a permanent bitumen standard link between northern Malawi and Tanzania. The new route from Karonga in Malawi to Ibanda on the Itungi - Mbeya road in Tanzania is part of the Regional Trunk Road Network and will link the Malawi road network to the Tanzam Highway and TAZARA, thus providing Malawi with a permanent outlet to the port of Dar-es-Salaam. The new link will assist in easing the problems of import and export traffic for Malawi and also promote agriculture and tourism. Furthermore, the link will give better access to the Ngana coalfield in northern Malawi. Only about 50 km of road and three bridges are needed to link up with the existing bitumen road from Itungi to Mbeya in Tanzania.

115. Financing has been secured for a full engineering design of the new permanent link (US$ 0.5 million). Meanwhile, emergency improvement works have been completed to allow, as a temporary solution, the use of the road. Financing for the construction of the new road (EEC) is being sought. The total cost is estimated at US$ 14.5 million.

(iv) Rehabilitation of the Tete - Cassacatiza road, section Matundo - Chiuta (SADCC)

116. The objective of the project is to rehabilitate 86 km of the road Tete - Cassacatiza, section Matundo - Chiuta. The main direct road between Mozambique and Zambia, Tete - Cassacatiza - Katete has during the last years been completed by the construction of the road section Bene - Cassacatiza and further to Katete on the Lusaka - Chipta road in Zambia. The route will also provide transport facilities between Zambia and the railway Moatize - Beira. The road section Matundo - Chiuta is asphalt-paved. It has a cross-section of 6.0 m. wide carriageway and 1.5 m. wide shoulders. The road has been damaged by heavy vehicles and needs reinforcement.

117. The traffic can be estimated to be in the magnitude of 100 - 200 vehicles per day. The construction of the road Chiuta - Cassacatiza has been finalized. The section Matundo - Chiuta remains to be rehabilitated. Financing of the project will be sought. the cost of the project is about US$ 6.5 million.

Other projects

Air transport

118. The Decade Programme identified a priority project in the air transport sector for the training of pilots and ground technicians. The estimated cost is US$ 1.61 million. The increasing vulnerability of land transit transport routes has enhanced the importance of strengthening the air transport operation capability.

Inland water transport

119. The Decade Programme also includes three projects for the development of inland water transport, namely: (i) Study on the development of Chintheche

harbour (US$ 0.7 million); (ii) Study on the rehabilitation of a workshop for the inland water fleet and of a floating dock (US$ 0.7 million); and (iii) Rehabilitation and improvement of the MV "Illala" and studies to be followed by its complete renovation (US$ 0.7 million). These projects are of high priority, deserving urgent support because of the importance of the links between the lake services and the external transport operations.

Communications

(i) Digitalisation of the trunk network (SADCC)

120. The objective of the project is to replace the old existing equipment of the backbone Mzuzu - Lilongwe - Blantyre, and to implement a transit exchange and transit facilities in Lilongwe and Blantyre. The microwave backbone link Mzuzu - Lilongwe - Blantyre is an integral part of the Malawi portion of the PANAFTEL network. It is connected to Zambia (Lilongwe - Chipata link); to Tanzania through the link Mzuzu - Mbeya that is in the implementation phase, and to Mozambique and Zimbabwe through the link Blantyre - Tete - Harare, for which the survey is now in progress.

121. Digital radio equipment (140 M/bit) is required considering that Malawi is now well advanced in the technology. The existing analogue equipment was installed in the early 70's and has given satisfactory service. They now need to be replaced due to age. The introduction of a digital transit exchange in Lilongwe and transit facility at Blantyre is needed to complete the project that will carry traffic from Zambia, Zimbabwe, Mozambique and Tanzania, also giving access to the satellite earth stations in Blantyre.

122. Two other Decade projects in this sector are also of importance for the improvement of regional and international communication links:

- (i) the supply of telegraph and telex equipment (US$ 12 million); and

- (ii) the extension of the multilateral telecommunications training institute in Blantyre to cater for broadcasting technicians.

MALI

Corridor system

123. Mali has access to the sea by two main routes:

- Via Senegal: 1250 km of railway linking Bamako to the port of Dakar (606 km within Mali and 644 km within Senegal). It is managed by two separate companies "Regie des chemins de fer senegalais" (RCFS) and "Regie des chemins de fer maliens" (RCFM). Railway traffic was interrupted from 1960 to 1963.

- Via the Ivory Coast: 1227 km of road between Bamako and Abidjan, or the possibility of a connection with the railway at Oungolodougou, 617 km from Bamako by road. However, most of the traffic goes straight to Abidjan by road.

124. Although land distance by either route is roughly the same, transport cost per ton/km are about one-third higher through Abidjan than through Dakar, as road transport is more expensive per ton/km than rail. There are alternative routes which are shorter than that of Abidjan i.e. through Conakry (Guinea) and San Pedro (Cote d'Ivoire) but so far neither of these routes have been developed. Two other routes are also very important for the eastern part of Mali (Fifth region- Mopti - and the sixth and seventh regions - Gao). One is via Burkina Faso to (Lome) Togo and the other is via Niger to (Cotonou) Benin. Both routes require much improvement in Mali and in the two neighbouring transit countries, Niger and Burkina Faso, before being fully practicable.

Priority programme

125. Mali prepared a Five-year Economic and Social Development Plan, 1981-1985, in which the transport development strategy gave priority to:

- improvement of rail, river and road transport infrastructures;
- construction of roads;
- construction of Malian warehousing in the ports of Lome, Cotonou and Abidjan; and,
- provision of petroleum products and staple foodstuff storage facilities in Mali's main towns;
- a new five-year plan is under preparation.

126. Rehabilitation of the Bamako-Dakar railway is considered a priority project by both Mali and Senegal and several projects concerning this have been included under the Decade programme. Mali has just signed a contract with the RCFM (Malian Railways) to transport 520,000 t. per year (as against an average of 300,000 t. per year until now) including 110,000 t. imported materials for the construction of the Manantali dam, and about 90,000 t. of imported petroleum products.

127. Project RAP 28.005 "Renouvellement et renforcement du materiel de transport".

- renewal and increase of rolling stock will provide Mali with five 2200 HP locomotives and two 1200 HP locomotives and 90 wagons of various types which will increase rolling stock to a sufficient number. Reinforcement of the permanent way from Bamako to the border is underway including bridge reconstruction, and only project RAF 28.004, which involves replacement of 58 switch gear assemblies, costing 500 million CFA Fr., remains to be financed.

128. The project Mali now considers to be the most urgent is the transfer of the goods railway terminal from Bamako to Kourfina (project RAF 88.002) at an estimated cost of 2.5 billion CFA Fr., Bamako's present goods yard is in the centre of town and is not large enough to handle present traffic. On the Senegalese side, there is at present a shortage of locomotives and wagons but at the beginning of 1986, three 2200 HP locomotives and 52 containers wagons were due to be financed. Project RAF 87.001 "Renouvellement et modernisation de la voie ferree (374 km)" - renewal and modernisation of the permanent way - includes in fact two subprojects:

129. Tambacounda - Kidira (Mali border), 189 km, jointly financed by KFW and IBRD at a cost of 4 billion CFA Fr., to have begun at the end of 1985; and, Moleme Kodar - Tambacounda, 185 km, requiring complete sleeper renewal at an estimated cost of 12 million CFA Fr. Italy has shown some interest in this project in connection with the start-up of the MIFERSO iron mining operations. Technical assistance should be justified. The Bamako - Dakar railway, in general, experiences management problems. It is particularly recommended to programme without delay an improvement in joint wagon pool operations with a view to more fluid traffic and trans-shipment.

The Bamako - Abidjan road

130. The main road artery is from Bamako via Boucouni and Sikasso to Oungolodougou, Frakossedougou and Abidjan, totalling 1269 km. The Mali section is 505 km of surfaced road. The Cote d'Ivoire section is 764 km of which only 426 km are surfaced. This road is a project in the Decade programme. Project ROP 28.004, reconstruction of the Bamako - Boucouni road (156 km), is financed under the 5th IBRD road project (1983-1988). Built about 30 years ago, it carries over 60 per cent of Mali's external trade and is in a very poor state. The project is estimated to cost 37.5 million CFA Fr. (US$ 75 million).

131. In Cote d'Ivoire, the earth section from the border to Ferkessedougou is in a very poor state and truck traffic is at present difficult. Its rehabilitation is essential to improve traffic to and from Mali (project ROP 21.001). It is also necessary to develop Ouangolodougou in Cote d'Ivoire as a trans-shipment point for Mali goods to connect with the Abidjan-Niger railway. Estimated cost of upgrading and extension is 200 million CFA Fr.

132. Two other routes are important to Mali. One is to Burkina Faso from Mopti via Sevare, Douentza and Gorkara totalling 193 km to the Burkinabe border, (project ROP 25.041) under which finance is still being sought for the design study. On the Burkinabe sector (Project ROP 87.301) from the Malian

border to Ouagadougou, 240 km, the rehabilitation of the road from the border to Yako remains to be financed as EEC is now funding the road from Yakoro to Ouagadougou. The other important artery is to the Niger border from Gao (210 km) but it has not been included in the Decade programme, although it is crucial to the disenclavement of Mali's sixth region.

Other projects

133. The Mali Government has introduced a system for planning and monitoring freight traffic through its maritime outlets. However, only the establishment of overall logistical control of all imported freight would make it possible to regulate the traffic from the country of origin up to arrival in Mali. By ensuring that land transport is co-ordinated with maritime transport, a regular flow of supplies could be maintained. Such a system, requiring organization and follow-through, is presently part of an UNCTAD study, and would cost an estimated 100 million CFA Fr.

134. Other aspects under study in Mali in the process of determining a coherent and integrated transport policy include:

- pertinence and means of establishing a consultative committee of users;
- conditions necessary for SONAM to become a fully-fledged marine shipping company;
- re-definition of function of Malian warehousing in transit ports;
- and, formulation of a policy regulating respective functions of different modes of transport available to Mali and relevant applicable freight rates.

135. Communications between Mali and Cote d'Ivoire (Abidjan) or Senegal (Dakar) present no problems. However, communications with Lome, which is similarly an important maritime outlet for Mali, are difficult and need to be improved through an improvement of the links Bamako - Ouagadougou and Ouagadougou - Lome - Cotonou (project TRP 44.001).

NIGER

Corridor system

136. From Niger, the sea can be reached by four main routes: a) the route via Benin - Cotonou (Benin) is of overriding importance as it carries more than 70 per cent of overseas traffic. The Niamey-Cotonou Corridor includes 438 km of railways in Benin and 624 km of road, of which 324 km are also in Benin. Traffic along this corridor is operated by the Organization commune Benin Niger (O.C.B.N.). The OCBN, a financially autonomous agency established in 1959 jointly by the governments of Niger and Benin, is not only a railroad company but also the major freight charterer in Northern Benin, with a monopoly of Niger's transit traffic. General cargo is presently apportioned as follows: two thirds to hauliers from Niger and one third to hauliers from Benin.

137. The route Niger - Lome (Togo) - via Burkina Faso. Niamey - Lome, 1237 km is a bituminous road, except for a last section between the Burkinabe border and Pama, 126 km, still under construction with BADEA financing (to be completed end 1986). It carries about one fourth of Niger's overseas traffic. The shift to road transport on the Lome corridor can be attributed to a quick and effective road haulage service.

138. The route Niger - Lagos (Nigeria) includes two access links: Zinder - Kano (265 km of bituminous road) or Makadi - Kano (22 km of biuminous road) and then Kano - Lagos by rail (1150 km). The route Niger - Algeria (the trans-Sahara route) with 2900 km between Agades and Algiers is also a potential outlet. Finally, it should be noted that the route Mali (Gao) to Lome or Cotonou through Niger is an important transit route for Mali.

Priority programme

139. Niger is presently finalizing the Programme d'adjustement structurel (P.A.S.) for the years 1986 - 1988 (Structural Adjustment Programme). The following projects in the field of transport, public works and communications are those which have been considered as priority projects by the government.

Niger - Cotonou Corridor

Reconstruction of Gaya bridge (Le pont de Gaya)

(a PAS project)

140. A new but urgent project because of the risk of collapse of the present structure which is used by all road traffic coming from or going to Benin (54 per cent of external trade of Niger).

Cost (1985 prices) - 2.5 billion CFA Fr.

OCBN railway rehabilitation (Cotonou - Parakou)

(a PAS project)

141. First phase (1985-1986): 6.1 billion CFA Fr., of which infrastructure and equipment totalling 2.4 billion;

- rehabilitation of workshops, 1.2 billion CFA Fr.;
- renewal of ballast over 50 km, 0.9 billion CFA Fr.;
- rehabilitation of telecoms, 0.3 billion CFA Fr.;
- Second phase, presently as yet unfinanced (RAP 03.001);
- renewal of ballast over 179 km, cost (at 1985 prices) 10.0 billion CFA Fr..

Cotonou port

142. Rehabilitation of cereal warehouses in Cotonou (a PAS project).

Cost at 1985 prices, 37 million CFA Fr.

- Reconstruction of two silos, cost not as yet estimated.

Niger - Lome Corridor

143. No project as yet identified in Niger. The entire road is surfaced except for the section from the Niger/Burkina Faso border to Piega (127 km). Work is underway, funded by the ADB, and should be finished by June 1986. The Piega - Fada section (60 km) was finished in 1985. This essential road for Niger, the funding of which has been shouldered by Burkina Faso, poses the problem of recurrent costs incurred by a country on an investment which is not of top priority to itself.

Niger - Lagos Corridor

(a PAS project)

144. The two sections in Niger of the Maradi - Kano road (of which 49 km in Niger) and the Zinder - Kano road (112 km in Niger) were surfaced to a single lane towards the end of the 1960's. They both require reconstruction. Supplementary financing of 2.7 billion CFA Fr. still remains to be obtained.

Niger - Algeria Corridor

145. Construction of a surfaced road from Zinder to Agades, 43 km (project ROP 33.005).

Southern region, Zinder -PK 215: 5.8 billion CFA Fr., financed;

Northern section, PK 215 - Agades: 16.7 billion CFA Fr., financing not yet obtained;

Agades - Arlit, 245 km, surfaced road.

Arlit-Algerian border, 203 km (project ROP 33.004) 21.8 billion CFA Fr.

146. It should be noted that the Niamey-Birni Nkouni - Tahoua - Agades Road is already surfaced.

Mali - Cotonou/Lome corridor via Niger construction of a surfaced road from Tillabery to Gabou, 70 km (project ROP 33.001).

147. The road from Niamey to Tillabery is already surfaced. After construction of the Tillabery - Gabou sector, only a 30 km section from Gabou to the Malian border would remain to be surfaced.

First phase: reinforcement of bridges (a PAS project) - 900 million CFA Fr.
This road is essential to disenclave Eastern Mali.

Other projects

148. Niger's land transport strategies and objectives in regard to transit transport, as stated in the PAS, include the strengthening of transport enterprises and closer monitoring of transport costs. In this regard, several projects have been identified for immediate funding:

OCBN Rehabilitation Project

- including financial restructuration, the discharge of unpaid liabilities (3.2 billion CFA Fr.) and consolidation of working capital (0.4 billion CFA Fr.) already financed by the CCCE;

- Strengthening of activities of the Conseil nigerien des utilisateurs des transports (CNUT) - the transport users' council of Niger established in 1984 has the task of identifying, studying and implementing all measures to improve the efficiency of transit transport. A PAS project prepared by UNCTAD.

Cost of implementation: 50 million CFA Fr.

149. Reorganization of the transport profession including a financing programme for road haulage equipment and the establishment of a utility vehicles marketing agency. A PAS project: 40 million CFA Fr.

Expansion of the Centre de formation professionelles des transports routiers (CFPTR) - the road transport occupational training centre of Niger - in order to develop two new training courses:

- training of long haulage drivers;

- training of diesel mechanics;

A PAS project

Cost: 370 millions CFA Fr. Financing yet to be obtained.

150. Extension of the Centre de formation des travaux publics - the Niger centre for public works occupational training - the World Bank has identified and is financing the project: 1.2 billion CFA Fr. Regarding telecommunications, Niger has direct PANAFTEL links with Benin, Mali and Burkina Faso, and with Cote d'Ivoire by satellite. Connections between Niamey and Lome are through Cotonou (Benin) which needs to be reinforced (project TEP 44.001). Niger has included in its PAS, the financing of the PANAFTEL route Birni n'Konni (Niger) - Sokoto (Nigeria) - 90 km - for a cost of 144 million CFA Fr., which will provide a route for international traffic between Niamey and Lagos (TEP 33.001).

RWANDA

Corridor system

151. Eighty percent of Rwandan external trade transits on the northern corridor to Mombasa via Uganda and Kenya, either all the way by road (1740 km) or by road to Kampala and then by rail (1925 km). The remaining 20% of external trade transits on the central corridor to Dar-es-Salaam: by road to Bujumbura (277 km), then by lake to Kigoma and by rail to Dar-es-Salaam. (Total distance: 1705 km). Rwanda however wants that more of its transit should be through Dar-es-Salaam and to this end, is presently planning a dry port road/rail transshipment terminal at Isaka in Tanzania.

Priority programme

152. Within Rwanda, three main disenclavement arteries are operational:

- between Kigali and Akanyaru Haut (Burundi border);
- between Kigali and Rusumo (Tanzanian border); and,
- between Kigali and Gatuna (Ugandan border).

153. There is an alternative project to Mombasa, crossing the Ugandan border at Kagitumba (project ROP 35.001), which is favoured by Rwanda, although the Rwandan section is 207 km as against 101 km to Gatuna. However, the Ugandan section would be reduced by 57 km and the overall connection much easier for trucks to travel, avoiding some difficult topography. Construction however is necessary in uganda on both routes:

- between Gatuna (Rwandan border) and Kabale (19 km); and,
- between Kagitumba (Rwandan border) and Lubale (30 km).

154. EEC financing has been agreed but no decision has been taken as to making the necessary studies or as to construction. Rwanda's interests are greatly turned to Isaka. The road Kigali - Rusumo Falls (Tanzanian border, 164 km) has been surfaced since 1977, including construction of a permanent (one lane) bridge at the border. Rusumo Falls - Rushanga (93 km) has been surfaced since 1984 (ADB financed) and construction of Rusahunga - Bukumbe (127 km) began in May, 1985, with EEC financing, and is due for completion by the end of 1986. Finally, Bukumbe - Isaka (112 km) is an earth road of average quality (no financing yet obtained). Use of the Kigali - Isaka (496 km) route would reduce the number of transit countries crossed by Rwandan external trade to only one. In addition to upgrading of roads, it is also necessary to build a dry port road/rail terminal at Isaka on land Tanzania has already given to Rwanda. The project, for which the design studies and tender documents are in the course of being prepared by UNCTAD, is financed by EEC at an estimated cost of about US$ 3 million (project MMP 35.001) and was due to enter service by the end of 1986 (by which time the critical Rusahunga - Bukumbe road section will also have been completed).

155. Regarding international communications, the Butare - Ngozi (Burundi) link (project TEP 35.003) for which financing is being negotiated with ADB, will make possible direct communications between Kigali - Butare (operating since 1984) and Bujumbura - Ngozi. Another important telecommunications disenclavement project is TEP 35.001 between Kigali and Biharamulo (Tanzania) via Ngara (in Tanzania, near the Rwanda - Tanzania border). The financing of Kigali - Ngara is also being negotiated with ADB.

Other projects

156. Rwanda has a three-fold transit transport strategy:

- concrete implementation of the results of negotiations in the context of the Northern and Central Corridors to ensure efficient traffic on all routes;

- establishment of a system to reduce the number of empty truck trips (in which context, it is also necessary to improve competitiveness of national hauliers and forwarders through better management and purchase of a sufficient truck pool); and,

- appropriate measures to prevent deterioration and thus avoid high costs of rebuilding, in view of the substantial investments required for construction (in difficult terrain such as in Rwanda) of most main disenclavement roads to its borders.

157. This policy is however still at the planning stage and projects must still be specified for its proper implementation.

SWAZILAND

Corridor system

158. Swaziland is the only member of the South African Customs Union whose main link to the sea is not through South Africa. For the export of iron ore, a rail link was built from the mines in Western Swaziland to a connecting line of the Mozambique system leading to Maputo. It has since become the main route for all Swaziland exports. Swaziland is developing a rail link southward to connect with the South African railway network, which would give it the flexibility of using Maputo, Durban and the new port in Richard's Bay.

159. Swazi road transport provides an important link to the South African distribution system. The road transport industry has developed steadily since 1972. Although all carriers are privately owned, the majority are non-Swazi. Of the domestic operators, the majority run single vehicles. At present, freight transport between South African railheads and Swaziland is provided mainly by South African carriers, licensed to operate in and out of Swaziland. Very few Swazi national carriers are involved in international traffic because of the restrictions on the number of permits issued by the South African Road Transport Board. There have been exceptions made and temporary permits granted for collecting items such as vegetables. The objection from the South African Transport Board to issuing more permits to national carriers is that South African Railways already has sufficient transport capacity.

160. There are three carriers which are responsible for most of the international traffic: Road Motor Services (RMS), which is part of the South African Rail and Harbours Corporation (SAR); Cargo Carriers Ltd., which is owned by a South African firm; and Swaziland United Transport, which is associated with a large South African transport enterprise.

161. The RMS fleet is distributed between the SAR railheads serving Swaziland: Breyton, Komati port, Lothair, Piet Rief, and Golela. This fleet serves not only Swaziland, but also the South African areas around the railheads. SAR has maintenance and office facilities at the railheads for motor transport equipment.

162. The railway of Swaziland was originally conceived as a short-term single commodity link to the port of Maputo. The Swaziland Railway Board, established in 1961, was responsible for the construction and operation of the rail-line, which linked the iron ore mines at Kadaka near the western border of South Africa to the eastern border of Mozambique. The line, constructed in 2½ years, was operational by the end of 1964. The design life of the rail was set at approximately 10 years to match the life of the first grade iron ore deposits. The nature of the railway has changed considerably since its inception and now is the transport backbone of the bulk exports.

163. The rail provides a direct, economical route for bulk materials to Maputo. Maputo is only 74 kilometres from the western border of Swaziland, therefore Maputo is less than 240 kilometres from the centre of the country and less than 100 kilometres from the countries' north-eastern development areas.

164. One of the issues of immediate concern with regard to the operational capacity of the railway line, is the dramatic decline in iron ore exports. It is generally assumed that if the pattern of other traffic does not change and present operating and other arrangements continue, then there would be enough volume to keep the railway viable from Matsapha to the Mozambique border. However, if the sugar traffic were to fall, the railway's revenue would be severely affected and its viability perhaps threatened.

165. Air transport is of minor importance relative to road and rail because of the small size of the country. Nevertheless, international air services which are provided at Matsapha airport near Manzini have expanded in recent years. The two main airlines which are actively involved in Swaziland's air-freight operations are Swazi Air Ltd. and South African Airways Ltd. There is an urgent need to expand existing ground facilities.

Priority programme

Railways

(i) Study and design of the rehabilitation of the Machava - Swaziland railway (SADCC)

166. The project involves a study of the rehabilitation of the 213 km railway between Machava in Mozambique and Matsapha in Swaziland. The cost of the project is estimated at US$ 0.9 million. the present track has 45 kg/m. rails on timber sleepers in Mozambique and Swaziland. Due to steep gradients (up to 25 per cent) and sharp curves, speed restrictions are frequent on the entire line, and the line has deteriorated.

167. The main objective of the rehabilitation plan is to enable the two railways to provide adequate, safe and efficient services to meet the growing demand for imports and exports to and from Swaziland and the internal demand in Mozambique. The traffic demand is expected to grow from 0.8 million tonnes in 1980 to 1.9 million in 1990 and 3.1 million in the year 2000. The project includes the rehabilitation and upgrading of the line to a standard of 48 kg/m. rails in Swaziland and new or repaired 45 kg/m. longwelded rails on concrete sleepers and with sufficient stone ballast in Mozambique to allow 20 t. axle loads through the line to Matsapha, 150 km from the border in Swaziland. For a detailed rehabilitation programme, a study will have to be carried out. Terms of reference for the study have been prepared. There are prospects for bilateral funding.

(ii) Dieselization of Swaziland railway (Decade programme)

168. A feasibility study was prepared in 1982 as part of this project. The study examines the implications of completely dieselizing Swaziland Railway in the context of its current expansion. A "Northern Link" is under construction to connect Mpaka on Swazi Railways with Kimatipoort on the South African Railways (SAR). The line will provide a direct connection to the countries in the North and will run through areas of Swaziland with significant coal deposits. It will also provide a shorter route for bulk products from eastern Transvaal to Richards Bay and Durban.

The main source of the recommended dieselization scheme is:

- Purchase of 15 mainline and 4 shunting locomotives. The type should be similar to the SAR Class 34, because a number of neighbouring railways have similar diesels. The shunters should be around 100HP;

- A maintenance shed should be set up in two phases at Mpaka. In the first phase, maintenance schedules will be carried out. In Phase II all schedules, other than overhauls, will be undertaken by Swaziland Railway (SR);

- Training facilities on SR need to be expanded to cater for the annual turnover of diesel operating and maintenance staff for refresher course.

169. The estimated total cost of the project is US$ 11.4 million. Financing is being sought.

(iii) Modification of wagons and wagon maintenance (SADCC)

The project consists of the following components:

- conversion of 130 iron ore wagons (US$ 325,000);

- conversion of workshop building (US$ 200,000); and,

- acquisition and installation of equipment in the workshop (US$ 563,000).

170. Iron ore wagons became redundant in 1980/81 when the Kadake Mine was closed. Since that time, 127 wagons have been successfully converted to high sided bogie wagons to carry sugar, coal and other bulk commodities for which there is a great demand in the common pool operated to and from Maputo. There are still 130 wagons to be modified. The project is of high priority and should be implemented in 1986-1987. At present, there is only a small shelter at Sidvokodvo for wagon repairs. A new combined wagon workshop and repair track is needed by expanding the existing facilities. The building of the workshop is scheduled for 1988. Funds are being sought for implementation.

(iv) Other railway projects

171. The Decade Programme covers other related projects for which funding is also being sought, namely the purchase of rolling stock (US$ 4.4 million) and the purchase of road and rail breakdown equipment (US$ 2 million).

Roads

Rehabilitation and upgrading of the road Mozambique border at Lomahasha Siteki - Big Ben (SADCC)

The project involves the upgrading and bitumenization of the road section:

(i) Lomahasha - Lonhlupenko junction west of Siteki, 52.5 km;

(ii) Lonhlupenko - junction north-west of Big Bend, 39.5 km.

172. The project is part of a systematic improvement scheme for the main road network in Swaziland. It will improve Swaziland's road connections to the port of Maputo. Section 1 has the first priority for the Government at present. The improvement of the two road sections is also very important for the on-going agricultural schemes in the eastern parts of Swaziland; sugar production, irrigation projects, small-scale farming, cattle ranching and agro-industry. Most of the existing and potential production is export orientated, with Maputo as the primary sea outlet. Much of these export-products are dependent on road transportation.

173. The existing road sections are of gravel standard. The design of the up-grading includes widening to 6.7 m. of the asphalted carriageway on a 10.3 m. formation. The road section Lomahasha-Siteki has traffic volumes between 175 and 700 vehicles per day. A feasibility study has shown internal rates of return between 10 and 29 per cent for different sections of the road. However, the development of the Mozambique-bound traffic seems to be underestimated in this study. The road section Siteki-Big Bend has traffic volumes between 150 and 300 vehicles per day. Internal rates of return for this section are rather low. Financing has been secured from multilateral and bilateral sources for the construction of the section Lomahasha-Lonhlupenko, and work was started in February 1984. Financing for the sector Lonhlupenko-Big Bend is being sought.

Air transport

Development of Matsapa Airport (SADCC and Decade Programme)

174. The aim of this project is to upgrade Matsapa Airport to enable handling of medium range aircraft (e.g. B-737s) with full payload. Use of B-373 with full belly compartment capacity for cargo and without time restrictions at the airport will improve Royal Swazi Air's operating results. The forecast for 1990 is 145,000 passengers from 2000 scheduled operations, while non-scheduled movements are expected to grow from 7,500 in 1978 to 24,000 in 1990, and freight and mail to expand from 200 to 800 tonnes.

175. The construction of a new runway, 2,600 m. long and 45 m. wide, taxiway and apron and installation of airfield lighting at an estimated cost of US$ 23 million was completed with local funds in May 1984. The cost of the control tower, operations building, remote transmitter station, a training component and a small telecommunications component as well as of navigation aids, communications equipment including technical assistance has been met by multilateral and bilateral sources. Financing for new terminal building, freight terminal and fire and rescue vehicles is being sought.

Communications[1]

176. The Decade programme has also identified several projects in the communications sector[2]. Three of these are of particular importance for international services: (i) Provision of four wire/trunk transit switching exchanges, (US$ 2 million); (ii) establishment of international airmail exchange office (US$ 0.49 million); (iii) establishment of a national postal and telecommunications training centre (US$ 1.8 million).

1/ Two SADCC projects have now been funded bilaterally. These are: (i) combined national and international telephone switching centre (Gateway Exchange) at Ntondoji (US$ 4.7 million); (ii) expansion of the national microwave trunk network (US$ 4.7 million). Contracts for the works have already been awarded.

2/ Further project details are currently not available.

UGANDA

Corridor system

177. Uganda uses two corridors to reach the sea: the Northern Corridor to Mombasa port in Kenya and the Central Corridor to Dar-es-Salaam in Tanzania. The Northern Corridor has a rail (1336 km) and road (1149 km) alternative. The Central Corridor is a combination of lake and rail modes of transport (1672 km).

Priority programme

Northern corridor

178. About 57 per cent of Uganda's present transit traffic on the Northern Corridor is by rail, as against 70 per cent twenty years ago. This loss in traffic is not only explained by the break-up of the EAC (East African Community) but is also due to increasing operating difficulties in recent years. There are two priority Decade programme projects in this regard: RAP 46.002 - purchase of locomotives and wagons and RAP 46.005 - construction of rail mechanical workshops. The first project is underway with the "return" to Uganda of 85 flat cars, as part of the apportionment of the defunct EAC's assets, and 60 flat cars purchased from India (delivered in 1985) plus 12 covered wagons and three locomotives, supplied by France. Uganda's Recovery Plan suggested the purchase of 240 covered wagons and 60 container wagons but more container than covered wagons should be acquired. On the other hand, the re-establishment of a rail workshop which is essential to ensure maintenance of rolling stock has not yet obtained financing.

179. Regarding modernisation of signalling network and telecommunications, project RAP 46.001 is presently underway for the Kampala - Tororo section and was due to be completed by 1986. No project on the Kenya side has been programmed under the Decade to improve operations, except a project to establish a railway technical and management training centre, although locomotive availability on Kenya Railways and domestic rail traffic demand could be constraints on rapidly increasing Uganda's traffic. But such difficulties should be temporary as Uganda's traffic constitutes a small, albeit significant, portion of total Kenya Railways traffic.

180. Road sections in Uganda on the Rwanda - Kenya international artery have not been targeted under the Decade programme, whereas their importance and present conditions require urgent reconstruction and upgrading to carry heavy truck traffic. Both Malaba - Kampala - Kakitumba (546 km) and Malaba - Kampala - Gatuna (603 km) are surfaced with a double bituminous surface but much of the existing surface is in poor or very poor condition. At present, two sections of highway are under reconstruction: between Malaba and Jinja (50 km) and between Kampala and Masaka (57 km). Three other sections are projected for future feasibility studies with World Bank financing viz:

Kampala to Jinja (80 km)

Masaka to Mbarara (132 km)

Mbabara to Lubale (80 km)

181. Moreover, nothing except insufficient financing from EEC has been earmarked for the section Lubale-Kakitumba, presently an earth road, yet favoured for development by the Rwandan government. An outstanding problem remains to be settled, namely the official acceptance in Ugandan territory of standards specified by the Northern Corridor Transit Agreement (11t. single axle-load, 16t. double axle-load and 42t. total pay load). An increase in axle-load implies greater wear on the road which is compounded by the economic advantage of additional cost to Uganda of road and bridge maintenance which must be made to avoid strict application in Uganda of regulations contrary to specifications agreed by Kenya, Rwanda and Burundi regarding heavy truck traffic.

182. Central corridor

The Central Corridor includes:

- The railway line from Kampala to the Jinja ferry pier (91 km) owned by the Uganda Railways Corporation (URC);
- the wagon ferry service in Lake Victoria between Jinja and Mwanza (352 km) jointly operated by the TRC and the URC;
- the railway line from Mwanza South Ferry pier owned by the Tanzanian Railways Corporation to Dar-es-Salaam (1229 km).

183. Only limited use has been recently made of this corridor. Since the middle of 1982, intermittent services have operated using TRC's wagon ferry. In October 1983, Uganda's first wagon ferry was commissioned and regular services have been operating since then. Two more Ugandan ferries are under construction. Several projects have been included under the Decade programme; i.e. INP 46.002 - construction of a container terminal at Port Bell, but neither appears as urgent as INP 46.003, which involves technical assistance for lake services to the URC.

184. Moreover, on the Tanzanian railway, track rehabilitation is required as well as an increase in the numbers of locomotives and wagons to achieve a satisfactory level of service for the potential and desirable increase in Ugandan transit traffic. These projects were submitted to a donor's conference in May 1984 for funding over the next few years. The results were not fully satisfactory. It is however a priority that measures planned by the TRC for management changes, training and capital investments be implemented on schedule over the next five years. Uganda will need to watch developments there so that throughputs on the central corridor can be tailored accordingly.

ZAMBIA

Corridor system

185. Zambia possesses a fairly well developed basic transport system consisting of: 2150 km of railway track operated by the following two different organizations: Zambia Railways (1270 km), which is a parastatal company wholly owned by Zambia; and the Tanzania-Zambia Railway Authority (TAZARA) (1860 km) of which 880 km are in Zambia and 980 km in Tanzania. The TAZARA is jointly owned by the governments of Zambia and Tanzania. It became operational in August 1976. Both railways are on the 'cape' gauge (1067 mm) which is common to all railways in the southern African subregion.

186. Zambia has 36,000 km of road, of which 5500 km (15 per cent) are asphalt-paved, 7600 km (21 per cent) are all-weather gravel surfaced. All inter-State highways and territorial trunk roads are bitumenized. There are 52 government-owned airports and airfields, 12 of which operate regular domestic commercial flights and one, Lusaka airport, which serves international traffic. Furthermore, there is a 1750 km pipeline linking the refinery at Ndola to the port of Dar-es-Salaam, which transports Zambia's petroleum imports. It began operations in 1968, and is jointly owned by the governments of Zambia and Tanzania. The other international transport facility is by Lake Tanganyika which is shared with Zaire, Tanzania and Burundi. Zambia's lake port is Mpulungu at the southern tip of the lake. Zambia's main outlets to seaports are provided by the following transit countries: Tanzania to the north-east, Mozambique to the east (through Malawi) and south-east (through Zimbabwe), South AFrica to the south (through Zimbabwe and/or Botswana) and Angola to the north-west (through Zaire).

187. Zambia is also an important transit country for Zaire's cargo to and from the port of Dar-es-Salaam as well as South African ports. Malawi also uses the road route through Zambia to Zimbabwe and South African ports when the shorter alternative route through Mozambique is not available. Zimbabwe and Malawi's access to Dar-es-Salaam is also provided by rail and road routes through Zambia.

188. The Zambia Railways (ZR) links up directly with Tazara at Kapiri Mposhi and thence to the Tanzanian port of Dar-es-Salaam via Tunduma (border point). Southwards, it links up with the National Railways of Zimbabwe (NRZ), via Victoria Falls, which in turn connects directly to the Mozambican Railways to Beira through Machipanda border point, and to Maputo through Chicualacuala border point. It links with the South African Railways directly at Beit Bridge, or at Mafeking via Botswana.

189. Zambia's inter-State road network has the following main links:

- The Great North Road to Tanzania via Kapiri Mposhi and Tunduma (border town), to link with the Tanzam Highway to Dar-es-Salaam port (Lusaka - Dar-es-Salaam, 1975 km);

- The Great East Road to Malawi via Chipata and Mchinji (border town). (Lusaka - Lilongwe, 744 kms);

- The Great East Road to Malawi, branching off to Mozambique at Katete and thence south to the border at Kazakatize to link up with Mozambique Railways at Moatize. (Lusaka - Moatize, 828 kms);

- The road to Zimbabwe via Chirundu linking up with NRZ at Lions Den or through by road to Harare. (Lusaka - Lions Den, 358 kms; Lusaka - Harare, 498 kms);

- The road to Zimbabwe via Livingstone and Victoria Falls to Hwange - formerly Wankie: (Lusaka - Hwange, 601 kms; Lusaka - Bulawayo, 932 kms);

- The road to Botswana via Kazungula (border point on the Zambezi river) linking up with the Botswana Railway (NRZ) at Francistown (Lusaka - Francistown, 1019 kms);

- The road to Zaire through Kapiri Mposhi, Kitwe, and Chililabombwe (border town), (Lusaka - Chililabombwe, 651 kms);

- The road to the port of Mpulungu on Lake Tanganyika (Lusaka - Mpulungu, 1053 kms);

- The road to the Angolan border through Kapiri Mposhi, Kitwe and Solwezi to Jimbe (Lusaka - Jimbe, 876 kms).

190. Zambia has increasingly used the Dar-es-Salaam corridor following improvements to the operations of both the Tazara and the port of Dar-es-Salaam, which are currently being implemented through assistance from various aid donors.

191. Given the cardinal objective of the SADCC (of which Zambia is a founding member) to reduce dependence on South Africa, particularly her transport and communications dominance of the subregion, it can be plausibly assumed that Zambia will in due course be routing the maximum amount of her external trade through the Dar-es-Salaam corridor as soon as the current improvements and pipeline on this route take effect. By corollary, the corridors to South African ports should lose their current overriding but unavoidable importance to Zambia. A non-trivial catalytic factor in this regard is that the South African routes are relatively more expensive on direct land transport costs when compared to the Dar-es-Salaam all-rail corridor.

192. The substantial road movements to the port of Dar-es-Salaam since the end of the 1960 underline the importance which Zambia attaches to this corridor even before TAZARA became a reality. The TANZAM Highway virtually carries all traffic transported by the road mode and has proved an important back-up and substitute whenever the all-rail movements have been disrupted. At the turn of the 1970s, its share of total trade averaged 20 per cent. This increased rapidly to 29 per cent in 1973 and to its highest level of 40 per

cent by 1975, then decreased steadily to its pre-1973 average by the beginning of the 1980s. To the extent that the operational efficiency of TAZARA remains impaired, it seems crucial that road operations on the TANZAM corridor should be maintained at optimum levels. However, given the unquestionable economies of rail transportation relative to the road mode, it seems to be in Zambia's own interest that these road operations should be scaled down to purely 'insurance' levels to guarantee maximum use of TAZARA as soon as the current remedial measures improve the railway's operations to expected and acceptable levels of efficiency. But the TZR's fleet and operations should not be completely disbanded, rather alternative economic uses for it should be mutually explored by its shareholders, so that its role as effective back-up to possible future failures of the railways can be retained, particularly bearing in mind Zambia's traumatic experience in the transportation of her external trade over the last decade.

193. Zambia's use of the Lobito rail corridor through Zaire increased substantially upon closure of the Rhodesian border in 1973 from its average share of 15 per cent of total traffic at the beginning of the 1970s to over 50 per cent in 1973 and 1974, thus virtually providing Zambia's alternative lifeline to the sea. As mentioned earlier, this route has most regrettably been put out of action by conflicts within Angola since 1975. However, on the plausible assumption that the Angolan internal conflict situation will revert to normal in the foreseeable future, and taking note of the highly competitive distance of the Lobito corridor, relative to routes to the South African ports, this is an extremely important "insurance route" for Zambia to reactivate and maintain as soon as circumstances permit.

194. For a number of cogent reasons, the Tazara rail route to Dar-es-Salaam is the most important for Zambia. Principal among them can perhaps be mentioned the following:

- Zambia has a 50 per cent shareholding stake in the enormous Tazara enterprise and hence, a direct vested interest in the viability of Tazara;

- the Tazara route offers the second shortest direct rail access to a maritime port after the Mozambican ports of Beira and Maputo. All things being equal, the same relationship should ultimately hold for comparative land transport costs;

- Zambia has a direct share in the management of Tazara operations, an important factor when compared to other rail transit corridors. She can influence Tazara's operational decisions and policies to her favour;

- all other rail transit routes available to Zambia must unavoidably traverse two or more countries, whereas the Tazara route transits only one country. This is an important factor for any land-locked country.

Priority programme

Railways

(i) TAZARA 10-year Development Plan Projects (SADCC)

195. The projects' objective is to rehabilitate and upgrade the TZR to provide adequate capability for future services. The 10 Year Development Plan prepared by TAZARA with assistance from SATCC/Technical Unit includes a total of 22 projects of which 7 are permanent way and construction projects (CE projects), 6 are signalling and telecommunication projects (ST projects), 7 are motive power, rolling stock and mechanical equipment projects (ME projects) and 2 are general management and training projects (GM projects). The phasing of the projects has been ranked according to three priority levels, i.e. implementation period 1985/1986 - 1987/1988 (rank 1), 1988/1989 - 1990/1991 (rank 2) and 1991/1992 - 1994/1995 (rank 3).

196. A Technical Co-ordination Conference for Donors was held in Arusha, Tanzania, on 11 - 12 April 1985. It was agreed that there was no need for a pledging conference but donors were to organize and go straight ahead with preparations for implementation. Preliminary pledging by multilateral and bilateral donors was made for 15 out of the 22 subprojects as shown in the table below.

197. Status of TAZARA projects

Code	Name of project	Priority Ranking	Estimated Cost Finance USD million Total	Foreign	Pledged USD million Total	Foreign
CE: 1	Rehabilitation of Quarries	1	3.2	2.5	3.2	2.5
CE: 2	Permanent Rectification of Land-slides	2	12.0	8.6	12.0	8.6
CE: 3	Mechanized Track Maintenance	1	14.9	10.5	14.9	10.5
CE: 4	Rail Welding	3	16.4	6.7	16.4	6.7
CE: 5	Rail Burn Repairs	1	0.5	0.3	0.5	0.3
CE: 6	Terminal Facilities at New Kapiri Mposhi	2	0.3	-	0.3	-
CE: 7	Railway Link TAZARA Mpulungu Port, Zambia	1	0.4	0.4	0.4	0.4
ST: 1	Solar Power Panels	1	0.8	0.7	0.8	0.7
ST: 2	Back - UP HF Radio Link	1	0.3	0.3	0.3	0.3
ST: 3	Teleprinters	1	0.1	0.1	0.1	0.1
ST: 4	Feasibility study Future	1	0.2	0.2	-	-
ST: 5	Automatic Train Stops	2	4.5	3.5	-	-
ST: 6	Track Circuiting	3	1.6	1.1	-	-
ME: 1	Locomotives	1.3	46.0	45.3	-	-
ME: 2	Goods Wagons	1.3	43.8	45.8	10.0	10.0
ME: 3	Trolleys and Trailers	1	1.6	1.6	-	-
ME: 4	Handling Equipment for Goods Depots	1	0.8	0.8	0.8	0.8
ME: 5	Rescue Crane and Rerailing Equipment	1	1.8	1.8	1.8	1.8
ME: 6	Wheel Lathes	1.3	2.5	2.5	2.4	2.5
ME: 7	Mechanical Equipment for Workshops	1	1.0	1.0	-	-
GM: 1	Technical Assistance to the Head Office	1	2.2	2.2	-	-
GM: 2	Manpower Development Plan	1	1.3	0.7	1.3	0.7
	Total		156.9	134.6	65.5	45.9

The follow-up of the financing activities is underway.

(ii) Wagon repair tracks and tools

198. The project will involve building of small wagon repair tracks at Choma and Kafue and acquisition of hand tools. Building of the repair tracks consists of a building, hardstanding and equipment at Choma and Kafue based on the recommendations made in the Final Report of the Study on Railway Rolling Stock. In addition, hand tools are needed for the maintenance of wagons (US$ 10,000).

199. Repair tracks are needed also at Livingstone, Kabwe and Ndola. These tracks will be financed by the World Bank's 4th Railway Project in Zambia. Project descriptions are included in the Report of the study of Railway Rolling Stock. Funds are being sought for the implementation of the project. The cost of the project is US$ 0.2 million.

(iii) Supply of wagons for TAZARA (SADCC)

200. TAZARA wagon fleet consists of 1750 wagons, of these, 130 flat wagons are suitable for container traffic and another 170 dropsided wagons are being modified by TAZARA for the growing container traffic. Considering the forecast volume and composition of future traffic, 350 additional high sided and 25 tank wagons are needed during a six year period. All tank wagons and half of the high-sided wagons are needed during the first three years. SATCC/Technical Unit prepared a dossier for financiers with cost estimates and a time schedule for the implementation of the project. There are some prospects for bilateral funding.

Roads[1/]

(i) Study on Kazungula Bridge and the Pandamatenga - Victoria Falls Road (SADCC)

201. The project involves a feasibility study of a bridge across the Zambezi River at Kazungula connecting Botswana and Zambia, with a road link via Pandamatenga and Victoria falls as an alternative. The territories of the Republic of Zambia and Botswana are linked together at one single point in the middle of the River Zambezi. The point is the junction of the border lines between the four countries, Botswana, Namibia, Zambia and Zimbabwe. The Governments of Botswana and Zambia came to an agreement in 1981 on the construction of a bridge at Kazungula.

202. There is an existing ferry service operated by the Government of Zambia, which offers the only direct link between Zambia and Botswana. An interim solution could be provided by the improvement of the ferry service. As this

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1/ Financing for the rehabilitation of the Kafue-Chirundu road has been obtained. The work is almost complete.

is part of the Trans-East African Highway system, the proposed Kazungula Bridge would be an important link in the trans-continental route. A new road link via Pandamatenga between the Nata-Kazungula road in Botswana and the Bulawayo-Victoria Falls road in Zimbabwe might provide an alternative route between Botswana and Zambia. Therefore, this study has been combined with the Kazungula Bridge study.

203. Terms of Reference for a feasibility study were prepared in 1983 and accepted by Botswana, Zambia and Zimbabwe. An appraisal mission in 1983 concluded that the bridge would not be feasible and consequently, there was no need to undertake a comprehensive feasibility study. However, the Zambian Government has expressed its continued interest in the bridge, and initial support from a multilateral source for the detailed feasibility study has already been obtained (US$ 0.2 million). The full cost of the project is US$ 0.4 million. A tripartite Steering Committee involving Botswana, Zambia and Zimbabwe met in January 1985 and reiterated the support of the three countries for the project. The terms of reference for the study are being reviewed and the additional financing required is being sought.

(ii) Rehabilitation of the Lusaka Kafue - Livingstone - Kazungula road (SADCC)

204. The road Lusaka - Kazungula (532 km) needs rehabilitation. Upgrading work commenced in 1982 on the section Zimba - Livingstone (42 km). This road section is being upgraded from a 3.5 m. wide surface to a 6.1 m. bitumen surface with 2 m. shoulders (US$ 5 million). The remaining sections are of varying standards and show signs of deterioration. The normal recurrent maintenance funds are not sufficient for the necessary works. Engineering design has to be carried out for these sections. The implementation costs for the whole road are estimated at US$ 30 million in 1984 prices. Bilateral financing has been secured for the feasibility studies and the execution of the studies is underway. Financing for the rehabilitation work is being sought.

(iii) Rehabilitation of the Ndola - Lusaka road (SADCC)

205. The project involves carrying out surveys on the condition of the existing Ndola-Lusaka road (321 km), to assess the treatment required for rehabilitation, and to carry out the necessary works. The Ndola-Lusaka road is comprised of the Lusaka-Kabwe T2 section of some 138 km. and the Kabwe-Ndola section, T3, which is 183 km. long. This road was built more than 15 years ago and carries a heavy volume of traffic. The average daily traffic in 1977 was 3051 vehicles per day with 50 per cent heavy vehicles. Recent counts show the flows to be above 2900 vehicles per day with 45 per cent heavy vehicles. There is evidence of damage to the road due to overloading.

206. Rehabilitation works have been carried out over selected sections in the past including reconstruction, surface dressing and premix overlay. However, due to the lack of funds, it has not been possible to keep up with the deterioration and it is now imperative to take urgent action. At present, only normal maintenance is being carried out as and when funds are available. Some department investigations have taken place on the condition of the pavement. Terms of Reference for a feasibility and engineering study have been prepared. Bilateral financing for the study (US$ 0.6 million) has been obtained. Financing for the rehabilitation work is being sought. The total cost of the project is US$ 28 million.

(iv) Rehabilitation of the Lusaka - Chipata road (SADCC)

207. The project involves carrying out surveys on the condition of the Lusaka - Chipata road, to assess the treatment required and to carry out the necessary reconstruction, premix overlay and/or surface dressing works. The Lusaka - Chipata road (T4) is some 589 km in length. The last section from Luangwa Bridge to Nayimba across the escarpment was tarred in 1972. Earlier sections are showing signs of deterioration and normal recurrent maintenance funds are not sufficient to arrest this. The average daily traffic is in the region of 200 to 250 vehicles per day with 45 per cent heavy vehicles. Urgent rehabilitation works are required. Pavement investigations are needed to assess priorities and types of treatment or rehabilitation.

208. At present only normal maintenance is being carried out as and when funds are available. Some departmental investigations have taken place on the condition of the road pavement. Bilateral financing for the feasibility and engineering study has been obtained. The total cost of the project is about US$ 34 million. Financing for the rehabilitation work is being sought.

(v) Improvement of the Lusaka - Mongu road (SADCC)

209. The purpose of the project is to carry out surveys on the condition of the Lusaka - Mongu road, M9, to assess the treatment required and to carry out the necessary reconstruction, premix overlay and/or surface dressing works. The Lusaka - Mongu road, M9, is 583 km in length. The section between Lusaka and Kafue Hook Bridge was completed by a Chinese team in 1973, together with the bridge. The section from the bridge to Mongu was finished by private contractors in the mid-1960's.

210. Traffic flows are approximately 200 vehicles per day with over 60 per cent heavy vehicles. Due to poor soil conditions, long sections of the road are showing signs of distress and already several kilometres have had to be reconstructed. Some surface dressing works have been made. In order to avoid further deterioration, rehabilitation works on a large scale are considered essential. Investigations fo the road pavement are needed to determine correct treatment. At present, only normal maintenance is being carried out as and when funds are available.

211. Some departmental investigations have taken place on the condition of the road pavement. Terms of Reference for an engineering study have been prepared. Financing is being sought. The cost of the project is estimated at US$ 35 million.

(vi) Study on rehabilitation of the Tanzam Highway in Zambia (SADCC)

212. The project will involve a study of the condition of the existing Kapiri Mposhi - Nakonde section (809 km) of the Tanzam Highway to assess the treatment required for rehabilitation. The Kapiri - Nakonde road was built over 15 years ago and carries heavy traffic volumes. The average daily traffic in 1980 was 396 vehicles per day with 39 per cent of heavy vehicles. Recent counts show

the flows to be 431 vehicles per day with 56 per cent heavy vehicles. Efforts are being made to ensure that vehicles comply with axle load limits by the weighbridges at Kapiri and Nakonde, but there is evidence of damage to the road due to overloading.

213. Rehabilitation works have been carried out over sections in the past with surface dressing and slurry seal. However, due to the lack of funds, it has not been possible to keep up with the deterioration and it is imperative to take urgent action. At present, only normal maintenance is being carried out as and when funds are available. The cost of the rehabilitation works is at present roughly estimated at US$ 45 million. Financing for the feasibility and engineering study has been obtained and work is underway. Financing for the rehabilitation work is being sought.

Air transport

(i) Study on improvement of Livingstone Airport (SADCC)

214. Operations at Livingstone airport are presently restricted due to limited runway strength, especially during the wet season, when Boeing 737s are limited to one flight per week under special dispensations. The project aims at upgrading the existing airport, including a runway reinforcement to permit regular operations with the Boeing 737 (LNC 45). The improvements would enable increase of both regional air services and tourism in Zambia. The project consists of:

- Strengthening of the runway - estimated cost US$ 5.0 million (1983);
- Construction of new control building and re-alignment of certain roads - estimated cost US$ 4.0 million (1983);
- rescue/fire building - estimated cost US$ 0.3 million (1983);
- Security fencing - estimated cost US$ 0.7 million (1983).

215. In the future, improvement of navigation facilities will be needed. A feasibility study is needed and terms of reference for such a study have been prepared. Funds for the feasibility study are being sought.

(ii) Study on improvement of Ndola Airport (SADCC)

216. Ndola is the second busiest airport in Zambia, handling 103,000 passengers and nearly 632 tonnes of freight and mail in 1982. It is the base for domestic services to the Northern Province and handles cargo flights to/from Europe and the Middle East. The existing terminal building is old and inadequate in size and urgently needs to be replaced by a new terminal.

217. A recent re-appraisal of the earlier design for the building has been prepared and the costs are estimated to be US$ 10.0 million (1983). Should Government policy favour establishing Ndola airport as a regular international airport, extension of the runway by about 40 per cent of the present length

will be required. Additional airfield lighting in conjunction with the extensions as well as new taxi-ways will also be needed. Estimated costs for this work is US$ 6.0 million (1983). Further improvement of navigation equipment and design and construction of a new cargo terminal will be needed at a later stage. A feasibility study is needed and terms of reference have been prepared. Funds for the feasibility study are being sought.

(iii) Study on new hangar at Lusaka International Airport (SADCC)

218. The aim of the project is construction of a new hangar at Lusaka Airport which has the capacity to perform maintenance and overhaul of the present fleet and future widebody aircraft. This will entail the building of:

- a wide hangar and workshop;
- a power plant over-haul building and offices;
- a component overhaul facility.

219. The present hangar is of a size where only minor maintenance checks can be carried out. Therefore, the project is considered essential for the further planned development of the facilities in Lusaka as there has been steady progress towards complete self-reliance in this field. Preliminary construction costs are estimated at US$ 17.5 million. A feasibility study is needed and terms of reference have been prepared. Funds for the feasibility study, estimated at US$ 0.3 million, are being sought.

(iv) Extension of Zambia air services training institute (SADCC)

220. The project will involve the extension of the ZASTI-institute to enable an increased intake of students from all SADCC member States. In order to increase the intake of students at the institute, additional equipment, enlarged accomodation and student facilities are needed. The additional equipment consists mainly of two single engine and one twin engine aircraft, diverse engineering workshop equipment, fire service, telecommunications and avionics equipment.

221. An increase of the student and office accomodation and improvements to the existing dining and kitchen facilities will also be needed. It is expected that the additional running costs caused by the increased intake of students will be covered by student fees. The project was presented to donors in November 1981 at the SADCC Conference in Blantyre. It has not yet been possible to finance the project. The cost of the project is estimated at US$ 1.6 million.

222. The Regional Training Council (RTC) of SADCC, Mbabane, has proposed that a mission be fielded to appraise and, if necessary, to update the original project documents in the light of the current situation at ZASTI and of the latest information concerning the Region's air services' training needs. Field mission and updated project description are to be prepared in collaboration with RTC, Zambia and SATCC.

(v) Other projects

223. The Decade Programme has identified other aviation priority projects for which financing is also being sought. These are: Purchase of radar system and technical assistance (US$ 15.48 million); and installation of an instrument landing system at Lusaka airport (US$ 0.36 million).

Communications

(i) Expansion of the earth station at Mwembeshi (SADCC)

224. The objective of the project is to expand the capacity of the existing satellite earth station at Mwembeshi in order to:

- meet traffic growth on international routes;
- free captive traffic handled by other transit centres;
- improve diversity of routes out of Zambia;
- improve the interconnectivity of the satellite earth section in the region.

225. The project consists of:

- provision of new transmitting and receiving carriers FDM and CFDM for the existing standard A antenna facing IOR primary satellite;
- installation of a new standard A antenna facing AOR primary satellite with SCPC and CFDM carriers;
- installation of a new standard B antenna facing AOR major path 2 satellite, equipment with CFDM and SCPC carriers.

226. The project will involve expansion of the already completed ITSC of Lusaka. Feasibility studies have been made and discussions are now in progress to obtain financing. The estimated cost is US$ 21 million.

(ii) Microwave terminal at Chingola to complete the link Zambia - Zaire (SADCC)

227. The project will involve the supply, installation and commissioning of a link between Zambia and Lumumbashi in Zaire as part of the PANAFTEL network. The bulk of the work is in Zaire. The SATCC part of the project covers only the Zambian side. Technical specifications have been prepared by ITU. A bilateral project agreement was signed in early 1982 between Zambia and Zaire. Multilateral funding for this project for the use of the Zairean Administration has been provided but no progress has taken place. Financing for the Zambian side is being sought. Further progress is now mainly dependent on developments in Zaire. The estimated cost of the project is US$ 0.2 million.

(iii) Microwave link Zambezi (Zambia) - Luene (Angola) (SADCC)

228. The project will involve the installation of a microwave link with a capacity of 960 telephone channels from Zambezi to Luene, Angola, across the border to give Angola direct access to the terrestrial PANAFTEL network. Since the section east of Luene presents logistical problems, a troposcatter

system will be installed all the way through. Angola is in the process of expanding the national network with microwave and troposcatter radio relay systems up to Luene in the east, but the timing of works cannot be fixed with any accuracy. On the Zambian side, the network expansion programme in the north western areas will provide a high capacity route by mid-1985 funded by Norad. SATCC has requested Norad to finance the project. ITU has offered to undertake a route survey and Norad has expressed interest in financing same. A meeting with Angola and Zambia has to be convened in order to formulate a project to be presented for bilateral funding. The cost of the project is US$ 7.2 million.

(iv) Microwave link Kariba (Zimbabwe) Siavonga (Zambia) Lusaka (SADCC)

229. The project involves the installation of a 960 channel microwave link from Lusaka to Siavonga and across the Zambia - Zimbabwean border to Kariba. The existing backbone microwave link i.e. Lusaka - Livingstone which carries traffic to Zimbabwe, Botswana and other parts of Southern Africa is congested with the international traffic in the subregion. In order to meet the traffic demand and at the same time provide diversity, it is necessary to provide this terrestrial link.

230. Currently, there is a 120 channel UHF radio link operating between Lusaka and Siavonga and no civil works are involved. A 300 channel system has been installed between Kariba and Harare at the Zimbabwean end. The cost of the Zambian part of the project is estimated at US$ 1.15 million, whereas Zimbabwe would need a terminal at Kariba. Planning has been completed and requirements identified and funding for the implementation of the project is being sought.

(v) Other projects

231. The Decade Programme has also identified some priority projects in the communications sector for which financing is being sought. These are: (i) expansion of satellite earth station (US$ 14.4 million); (ii) installation of medium-wave transmitting stations (US$ 3.95 million); and, (iii) training of broadcasting personnel (US$ 0.75 million).

ZIMBABWE

Corridor system

232. Zimbabwe possesses a well-developed basic transport system consisting of 2734 km of railway track operated by the National Railways of Zimbabwe (NRZ), 85,420 km of roads, of which about 14 per cent is paved and a further 54 per cent engineered gravel. The primary road system is completely paved. Eight airports, of which three, in Harare, Bulawayo and Victoria Falls, are international. An oil pipeline links the refinery at Feruka (approximately 12 km within the eastern border) to Beira port in Mozambique. As a land-locked country, Zimbabwe's access to sea ports is through one or more transit countries. The maritime transit countries available to Zimbabwe are Mozambique to the east, South Africa to the south, Tanzania to the north-east and Angola to the north-west. Furthermore Zimbabwe is a transit country for Botswana, Malawi, Zaire and South Africa.

233. The National Railways of Zimbabwe (NRZ) link up directly with the Mozambique Railways (Caminhos de Ferro de Mozambique) to Beira via Machipanda, and to Maputo either via Chicualacuala (Limpopo line) or via Beit Bridge and Komatipoort in South Africa (Selati line) and the South African Railways system (SAR) at Beit Bridge or via Botswana at Ramatlhabama. The link to the Zambian Railways is via Victoria Falls, which in turn connects respectively to the Zambia-Tanzania line to Dar-es-Salaam port (TAZARA) at Kapiri Mposhi and to "La Societe Nationale des chemins de fer zairois (SNCZ) through the Zambian copperbelt and to the main mining centre of Lubumbashi in Zaire, and then to the Benguela Railways leading to Lobito in Angola.

234. NRZ is a State-owned corporation with headquarters at Bulawayo. By most standards, NRZ can be classified as well managed and efficient. Corporate planning is a particularly strong area as are also the standards followed in all the engineering, accounting and data processing disciplines. Its deficits since 1970 are mainly due to the tariff policies of the government which give preferential rates for hauling selected commodities like coal, coke, agricultural products and exports.

235. NRZ is faced with a crucial shortage of skilled maintenance staff, particularly in the mechanical engineering department (locomotive maintenance) and in the signals and telecommunication department. As a consequence, training has become a matter of high priority for NRZ. Existing training facilities are being vastly expanded and the railway is establishing a Management Training Centre in Bulawayo.

236. The NRZ works in close co-operation with the railways of the subregion. There are no difficulties in the movement of rolling stock from one country to another. Through-booking of freight is a normal feature between South Africa, Zimbabwe, Zambia, Zaire and Mozambique railways. The NRZ has been meeting regularly with the other railways of the subregion in a consultative group since 1980 (informal contacts were maintained prior to that). This grouping of railways is attempting to rationalize and co-ordinate medium-term plans to improve the movements of traffic in the region. The issues involved

range from easy ones such as uniform principles to reshape existing bilateral interchange working agreements to complex issues relating to eventual uniformity in tariff structures.

237. The international road links from the capital Harare are the road to Lusaka (Zambia) via Lions Den and to Chirundu at the border, the road to Blantyre (Malawi) through Mozambique via Nyampanda (Zimbabwe border town with Mozambique) and to the Mozambican town of Tete; the road to Beira (Mozambique) via Mutare and Machipanda at the border; the road to South Africa via Beit Bridge and to Messina in South Africa and the road to Gaborone via Bulawayo, Plumtree and to Francistown.

238. Apart from a small Road Motor Service operated by NRZ in remote areas not served by rail, the road haulage industry in Zimbabwe is entirely operated by the private sector. Road service permits for hauling freight have to be obtained from the Ministry of Roads and Road Traffic which, inter alia, takes care that road haulage is authorized only where appropriate rail transport is not available. The Road Service Permit specifies the type of vehicle for which the permit is issued, and the route or area over which operations may be conducted.

239. Zimbabwe has a relatively well developed and efficiently operated road haulage industry which is fairly diversified to cater for the requirements of various cargo types. There are about ten large road transport companies which participate in both international and domestic operations. In addition, there is a large number of smaller road transport enterprises which are only involved with domestic movements. The larger road transport operators, some of which are subsidiaries of transnational corporations, are organized into a Road Transport Hauliers Association. It is concerned primarily with matters relating to the transportation of goods and equipment. Another organization, the Motor Traders Association, is only concerned with personal transport facilities, but is also routinely consulted by government on road transport policy matters, particularly new legislation proposals. There is also a recently formed organization of which main objective is to promote and protect the interests of small-scale truck and bus operators.

240. Zimbabwe has adequate legislation to protect the road system. Weighbridges are located in vehicle inspection centres, supplemented by load metres at strategic points on the road network. Furthermore, a strict policy which protects the railway is enforced in Zimbabwe (as in South Africa and Mozambique). Trucks coming from Zambia with goods to be shipped to one of the Southern African ports are to unload their shipment at Lions Den, 140 km north of Harare. Similarly, most of Zimbabwe's road traffic stops in South Africa at Messina, 15 km south of the border. The Mozambique government does not permit road haulage where a rail alternative exists, and levies a stiff "compensation" charge on all transit traffic which does not move by rail. The official explanation is that this reimburses the railways for lost revenue. In fact, trucks only very exceptionally go beyond Villa de Monica (on the Beira line) from Zimbabwe or beyond Moatize from Zambia.

241. A 290 km petroleum pipeline from Beira to the refinery of Ferruka, owned by Lonrho as main shareholders, was constructed in 1965 to carry

Zimbabwe's crude oil imports. It opened again in 1982 after its closure since 1966 following UDI by former Rhodesia. It is planned that the pipeline be operated with substantial State participation, and to carry only refined product until such time as the Ferruka Refinery is repaired.

242. Zimbabwe has several weekly regular flights to all the countries of the subregion, and to Europe, Australia and Asia, through its national air transport company, "Air Zimbabwe", as well as other national airlines of the subregion or airlines from Europe, Asia and Australia. There is also a private air cargo carrier "Afretair", but there are plans for take-over of this company by Air Zimbabwe.

243. In terms of distance, starting from Harare, as well as the number of transit countries crossed, Mozambique ports are the preferred outlets for Zimbabwe. There is the 600 km link to Beira via one transit country, and the 1270 km link to Maputo via one transit country. In both cases, there is only a through railway trip involved. The corridor to Nacala (1400 km) necesitates a trip through two transit countries. South African ports rank second in importance. There is 2070 km to Durban via one transit country; the 2380 km link to Port Elizabeth and the one to East London, 2410 km via two transit countries. The port of Dar-es-Salaam is reached after a combined journey by road and rail (2500 km) or a through rail journey (3400 km), traversing two transit countries. Consequently, in terms of distance and transit countries crossed, it ranks below South African routes. The route to the port of Lobito in Angola, which is some 4000 km long involves transiting three countries and thus represents an alternative of low priority.

Priority programme

Railways

244. There is a priority railway project within the SADCC programme for track repair and wagon maintenance which consists of (a) cover and hardstanding to the existing repair tracks of Mutare, Thomson junction, Mpopoma and Lochinvar; (b) a new repair track at Plumtree with equipment and, (c) the replacement of the maintenance equipment at the Mutare workshop. This project will be financed by the National Railways of Zimbabwe.

Roads

(i) Upgrading of the Plumtree - Botswana border road (SADCC)

245. The aim is to connect the Zimbabwe major road network with that of Botswana. The existing road consists of 2.7 km of very old tarred road, 5.5 m. wide, and 6.7 km of gravel road with very poor horizontal and vertical alignment. The road will be upgraded and realigned to a two-lane bitumen road designed to the main road standards of Zimbabwe. The border post is passed by an average of 60 vehicles per day, of which 7 are heavy vehicles. The construction of this road is underway with financing by the Government of Zimbabwe.

(ii) Study on upgrading the eastern end of the Harare - Mutare - Mozambique border road (SADCC and Decade Programme)

246. The aim of the project is to create conditions in the Mutare area to accommodate the increasing heavy traffic with special regard to growing export and import transport through the port of Beira. The project includes:

- 26 km of the road west of Mutare municipal border;
- the pass through Mutare, about 13.5 km;
- the 1.5 km section between the municipal border and the border to Mozambique;
- As an alternative, a new by-pass south of the built-up area, which should reduce the distance to the Mozambique border by about 5 km and reduce the traffic congestion in the city of Mutare.

247. The average daily traffic during the months of January - June 1981 varied between 11 and 39 of which 2 - 22 were heavy vehicles. The estimated cost for design and works is US$ 17 million. The cost of the study is estimated at US$ 0.1 million. The government has prepared terms of reference for the study. There are good prospects for multilateral funding, which are being followed up.

Air transport

Study on new Harare Airport Terminal (SADCC)

248. The need to construct a new aiport terminal building and for rehabilitation of the present facilities is becoming more and more urgent as in the long run the present facilities will be saturated and inadequate. Implementation costs are according to a pre-feasibility study estimated at US$ 100 million. A master plan study on the development of Harare airport which is underway will show if there is need for constructing a new terminal building or if the reconstruction of the existing terminal will be sufficient for the near future. This project must be given high priority in the context of the co-ordinated and integrated traffic system in the SATCC region, as Harare will be the natural traffic hub. Therefore, it must have a high capacity of handling transit traffic.

Communications

249. The Decade Programme has identified a number of communications priority projects, which are important for the improvement of international services; namely:

(i) installation of a standard "A" earth station - (total cost: US$ 12.6 million);
(ii) establishment of a postal training centre at Harare - (total cost: US$ 1.5 million);
(iii) establishment of a postal transit centre at Harare - (total cost: US$ 8 million).

III. SUBREGIONAL PRIORITY PROJECTS

Southern Africa subregional projects

250. There aree a number of priority subregional projects covering the countries of Southern Africa, whose implementation would significantly contribute to the improvement of transit transport system in the subregion.

UNCTAD executed project (RAF/77/017)

251. This transit transport project which covers Botswana, Lesotho, Malawi, Zambia, Zimbabwe and Swaziland and is being implemented with the full participation of Mozambique and the United Republic of Tanzania, entered its second phase in 1985 and is currently largely operational. The project activities are closely co-ordinated with those of the Southern Africa Transport and Communications Commission (SATCC) and those of the secretariat of the Preferential Trade Agreement (PTA) of East and Southern African countries. The recent Tripartite Project Review by the governments concerned, UNDP and UNCTAD, which was held in Lilongwe (Malawi) in February 1984, agreed on future activities which include work on the simplification and standardization of documentation in the region, on the logistics of transit cargo movement, the establishment of dry ports, improvement of freight-forwarding services, drafting of protocols for regional or bilateral transit agreements as well as other related institutional arrangements at national and regional levels.

252. A tripartite review meeting of the project was scheduled for end February 1986. The future activities of the project were to have been reviewed at this meeting. Preliminary proposals for the future work programme include: improving cargo flows: trucking and land-transit system; road, rail and port transport management and operations training of road, rail and port operators and managers; port management accounting; transit documentation; country transit transport studies; assistance in formulating transit agreements; training of small-scale national trucking operations and training in air transport operations for transit cargo.

253. The total cost of the project (covering the period 1986-1988) is estimated at US$ 2.4 million. Although a continuation of UNDP support is anticipated, bilateral funding will be necessary in order to accomplish the work envisaged.

Training Development Programme (SADCC)

254. The objective of the project is to promote the development of training within the transport and communications sector in the member States. The project encompasses three separate regional training activities. The project encompasses all training activities which at this stage are considered to be needed urgently and which have not yet been defined as separate projects. Training has high priority and the Technical Unit of SADCC will be closely involved in the initiation and development of the said activities. There is, however, a need for supplementary technical assistance and external financing.

255. Three separate activities have been identified, of which one has been completed. They are described in further detail in sections 4.3 and 6.3 of the report. The activities included in the project are listed below. Preliminary cost estimates are indicated in brackets:

(1) Road traffic and transport training - (US$ 500,000);
(2) Preparation of a telecommunications training project in Mozambique; (completed);
(3) Training course in national telecommunications network planning - (US$ 100,000).

256. The first activity includes an assessment of the needs for training in road traffic and transport. Based on an analysis of the needs, proposals on future training programmes and their regional organization will be prepared. Due consideration will be given to increased regional use of present training institutions within this field. The last activity covers planning and implementation of training courses. Originally, transport management training was included as subproject (1). Now, it has been combined with road traffic and transport training. Terms of Reference have been prepared for (1) and (3). Financing is being sought.

Other projects

(i) Study on railway telecommunications (SADCC)

257. The project will involve carrying out a review of the existing railway telecommunications system within the SATCC region and to make broad recommendations for a regional development plan, technology and standards. A Railway Rolling Stock Study that was carried out concluded that an overall review of the existing railway telecommunications system is needed for proper planning of the development of international traffic in the future. At the meeting of Railway Administrations in April 1984, it was concluded that this study is of first priority from the railway's point of view. The study aims at evaluating the condition and capacities of the existing system and making appropriate broad recommendations for:

- a phased communications development plan;
- the most appropriate technology and;
- international technical standards for communication between railway administrations.

258. Terms of Reference have been prepared and funding is being sought. The cost of the project is estimated at US$ 0.1 million.

(ii) Study on railway wagon manufacture (SADCC)

259. The objective of the project is to identify the present capacity and capability of the industries in the region to manufacture railway wagons and to make broad recommendations for the development of such industries and regional production of railway wagons and wagon components. The study is expected to be carried out in close co-operation with the Technical Unit and the SADCC Industrial Co-ordination Division in Tanzania.

260. The study will include visits to relevant administrations, organizations and industrial units. On that basis, an inventory of the present capacities and capabilities to produce railway wagons and wagon components in the region will be made. The findings of the study shall include schedules of future requirements of complete wagons and wagon components, a statement on the present industrial capabilities, and a programme for the development of the industry for the manufacture of railway wagons and wagon components in the region. Terms of Reference for the study have been prepared. Financing is being sought. The cost of the project is US$ 0.35 million.

(iii) Study on railway telecommunications and signalling (SADCC)

261. The objective of the project is to carry out a review of the existing railway telecommunication and signalling systems within the SATCC region and to make broad recommendations for a regional development plan, technology and standards. In connection with the Railway Stock Study, the study concluded that an overall review of the existing railway telecommunciation and signalling systems is needed for proper planning of the development of international traffic in the future. At the meeting of Railway Administration in April 1984, organized under Project No. 0.0.2, Operational Co-ordination Development Programme, it was concluded that this study is of high priority from the railways' point of view.

262. The study aims at evaluating the condition and capacities of the existing systems and making appropriate broad recommendations for:

- a phased regional development plan;
- the most appropriate technology; and,
- international technical standards for communication between railway administrations.

263. Terms of Reference have been prepared and financing is being sought. The estimated cost is US$ 0.1 million.

(iv) Study on regional co-operation on shipping (SADCC)

264. The project aims at furthering co-operation on shipping among the member States by way of pooling resources available in the region in order to achieve maritime services adapted to the specific needs of the region. The study should include but not be limited to the following points:

- a comprehensive analysis of the shipping services available in the region;
- survey of the present cargo flow and forecasts up to the year 2000;
- corresponding shipping requirements for the defined trades;
- inventory of shipping resources available in the region;
- determination of type and amount of additional resources to fill the gap between demand and supply;
- definition of alternative strategies to secure these resources for the region.

265. If the finding of the study indicate that a regional shipping line would be an effective means to achieve better maritime services, the study should also give recommendations on:

- planning, organization, administration and management of the line;
- trade to be covered by the line;
- types and number of vessels to be operated initially;
- development programme for short-term and intermediate-term periods.

266. The recommendations should be upported by sufficient economic and financial analyses showing the viability of the recommended project. Terms of Reference have been prepared and a programme for consulting services proposed. Financing is being sought. The estimated cost of the project is US$ 0.2 million.

(v) Tanelec flight calibration service (SADCC)

267. The project will involve the expansion of the Tanelec Flight Calibration Unit, Arusha, for the provision of complete flight calibration service requirements of the SADCC States, including training. Each state is responsible for the regular ground and flight calibration (testing) of its radio navigation, approach and landing aids to ensure that they conform to all performance standards specified by ICAO. These aids are required for the safe and reliable guidance of aircraft flying from one point to another. This project is a continuation and the second phase of the studies conducted by Australian consultants and which are now completed on Project 4.0.1. Regional co-operation in flight testing of navigational aids, and its addendum, operational evaluation of the Tanelec Flight Calibration Services, Arusha.

268. Background documentation in support of funding assistance has been prepared by the Ministry of Communications and Works of Tanzania. At present, Tanelec's primary calibration aircraft is a Piper Navajo fitted with a single console Sierra Flight Inspection System. This set-up is technically capable of carrying out limited flight calibration of nav-aids in Tanzania and in a few other SADCC states. However, for it to be able to meet the full requirements for flight testing and calibration of nav-aids and also cope with the heavy work load needed to cover the whole SADCC region, it would require a larger and higher performance type of aircraft such as a turbo-prop or jet aircraft.

269. The Tanelec Flight Calibration Service has now been transferred to the Ministry of Communications and Works of Tanzania which has made a Turbo Commander available for the calibration unit.

270. Thus, the cost will be reduced to a total fo US$ 2.6 million (in foreign currency) to cover the following:

1. installation of calibration equipment in the Turbo Commander;
2. calibration equipment;
3. fault rectification equipment;
4. training equipment;
5. additional personnel (expatriate and local).

Financing is being sought.

(vi) Study on joint utilization of maintenance facilities for aircraft (SADCC)

271. The project will involve a study to assess the present maintenance and overhaul facilities in the region and evaluate possibilities for future joint utilization of these facilities, determine manpower requirements, training programme and investments needed to meet current and future needs, aimed at distribution of gains and work load equitably among the participating members. The aim of the project will be:

- to recommend an optimal system for maintenance and overhaul (including repair) facilities for airframes, engines and components for the airlines registered in the SADCC States, bearing in mind existing facilities and projected fleet development;
- to prepare an outline of a system's concept for the provision of workshop and test facilities;
- to indicate the magnitude of investments by location and to estimate the operating costs;
- to recommend the possible distribution of responsibility for various kinds of maintenance work to be undertaken by the participating members;
- to recommend an administrative committee responsible for co-ordination of the aircraft maintenance activities and requirements within the SADCC region;
- to prepare a cost/benefit analysis showing the efficiency improvements which the recommended system will achieve compared to current maintenance and overhaul practices.

272. Terms of Reference have been prepared. Financing is being sought. The total cost of the project is estimated at US$ 0.255 million.

(vii) Study on commonality in civil aviation legislation (SADCC)

273. The study is designed to demonstrate how to achieve the highest degree of commonality in Civil Aviation Acts, Air Navigation Orders and Air Navigation Regulations that will enable adoption and use of co-operative measures which otherwise could be retarded or prevented. The present Civil Aviation authorities in the SADCC States have, mostly as a matter of expediency, been required to adopt and develop their civil aviation legislation and regulations on basic legislation and philosophies inherited from previous administrations. This basic legislation was in many cases suited to a colonial type of administration and had its origin during a period when many of the new universally accepted ICAO standards were in formative stages. It is unsuited to autonomous development. The work will include:

- preparation of an inventory from each State of copies of the existing Civil Navigation Act, Air Navigation Orders and Air Navigation Regulations;
- a review of these documents to ascertain differences in construction and application and whether modifications can be made to facilitate a greater degree of co-ordination. Proposal for change will use ICAO standards as a basis and will need to be discussed with each Civil Aviation Authority concerned to ascertain practicability and acceptability;

- preparation of a report in detail on recommended changes to application of acts, orders and regulations for Regular Passenger Transport and General Aviation, with particular reference to:

  - personnel licensing;
  - aircraft certification, maintenance and servicing,
  - aerodrome standards for international operations.

  A report has been prepared and is being discussed.

(viii) Study on general aviation activities (SADCC)

274. The project involves a study of the policy, regulations and operations of general aviation taking into account its role in development, including charter, aerial work and aerial medical services. There are at present approximately 800 general aviation aircraft and well over 1000 aerodromes and landing strips in the nine SADCC States. The most commonly used regular passenger transport aircraft in regional operation, the Boeing 737, can land on only 36 of them. The study is expected to cover inter alia the following areas:

- the establishment and implementation of mutually acceptable policies and regulations which will permit general aviation operations - particularly commuter and charter type operations - to be developed and integrated with Regular Passenger Transport operations. It is essential to reconcile the separate development of both and to ensure their separate economic survival by minimising conflict and optimising their distinctive roles;
- the regulations of procedures and frequency of movement for general aviation aircraft operating between adjoining States;
- the practicability and methods of achieving greater commonality of aircraft, engines and accessories' overhaul;
- the development and application of common standards of airworthiness in certification, maintenance and servicing of aircraft together with development of standards for licensed maintenance personnel;
- the inclusion of general aviation services in individual state planning as part of National Transport Development;
- the practicability of development of aerial work activities in such fields as environment survey, agricultural spraying, pest control, and top dressing;
- the practicability of development of an aerial medical coverage which would be a great benefit to the communities of their States.

275. Terms of Reference have been prepared. Financing is being sought. The total cost of the project is US$ 0.39 million.

(ix) Updating of the 1974/1975 civil aviation manpower and training requirements survey (SADCC)

276. The project will involve updating of the various manpower and training studies which have been carried out under ICAO/UNDP programme. A "Civil

Aviation Manpower and Training Requirements Survey", Africa, was carried out in 1974/1975 under UNDP/ICAO Project RAF/73/006. The objective of the survey, as established by ICAO, were:

- Long range objectives; to meet the manning and training requirements in various fields of civil aviation.

277. Immediate objectives:

1. To determine the immediate manning and training needs of each country and establish programmes to meet these needs;
2. To establish an integrated training programme covering all countries;
3. To determine the number of additional training places which would be required yearly in each field of specialization and develop a programme of action for the provision of these places.

278. The recommendations of this survey were accepted at a Plenary Session of the African Civil Aviation Commission in August 1975 but the recommended programme was never implemented. Due to the rapid development within the civil aviation sector, therer is now an urgent need for updating with regard to the SADCC States with the following activities:

1. To make a survey and analysis of the existing staff establishment of the civil aviation authorities and national airlines;
2. To consider, in the light of the expected civil aviation activity, the adequacy of these staff establishments to meet the long range and immediate objectives as laid down in the original 1974/1975 survey;
3. To prepare a Training Programme geared to filling the establishment necessary to meet both the long range and immediate objectives for all categories of staff.

279. Terms of Reference have been prepared. Financing is being sought. The total cost of the project is US$ 0.225 million.

(x) Updating the aeronautical information services (SADCC)

280. The objective of the project is to review the Aeronautical Information Services (AIP's) of each SADCC State and explore the possibility of co-operation in this field. AIP's are charts providing the pilots with all the details necessary for safe performance of a flight such as information about airways, compulsory reporting points, central zones, navigational aids, flight levels, aerodromes etc. The design, drafting and amendment of the aeronautical information required is a very specialized task performed by experienced and well trained staff. Extensive investment is needed in equipment for production of AIP's and also a well-organized administration for collection of data and network for distribution.

281. It is mandatory for each ICAO contracting State to provide an aeronautical information service. The aim is, through a review of the Aeronautical Information publications of each of the SADCC States, to assess:

- compliance with, or differences to, ICAO Annex 15 "International Standard and Recommended Practices related to Aeronautical Information Services";
- general conformity to the guidance material in ICAO documents and manuals;
- production, amendment and distribution staff, organization and procedures for issuance of AIP material;
- determine methods and routines with particular reference to areas in which commonality of presentation and joint production would be advantageous.

282. Terms of Reference have been prepared and financing is being sought. The estimated cost of the project is US$ 0.46 million.

ANNEX

Table 1 : Population, per capita GDP and growth of real product in the Land-Locked Developing Countries, 1970-1982

Country	Population (millions) 1982	Annual average growth rate of population (% per annum) 1970-1982 a/	Per capita GDP (US $) 1982	Annual average growth rates of total real product (%)			Annual average growth rates of per capita real product (%)		
				1970-1980 a/	1980-1981	1981-1982	1970-1980 a/	1980-1981	1981-1982
Botswana b/	0.96	3.5	830	8.4	12.6	2.0	4.7	8.7	-1.5
Burundi	4.46	2.1	249	3.6	1.3	-2.6	1.6	-1.2	-5.0
Central African Republic	2.40	2.2	269	2.1	-2.1	-1.6	-0.1	-4.3	-3.9
Chad	4.64	2.0	148	1.8	-9.0	-7.3	-0.2	-10.9	-9.2
Lesotho	1.41	2.4	240	8.1	3.5	2.2	5.6	1.0	-0.3
Malawi	6.27	2.6	213	7.6	-0.8	2.7	4.9	-3.4	0.1
Mali	7.34	2.7	157	3.8	-1.8	-1.7	1.0	-4.2	-4.2
Niger	5.84	2.8	340	5.0	1.1	-0.5	2.1	-1.8	-3.0
Rwanda	5.59	3.8	248	8.0	2.8	1.2	4.0	-0.8	-2.4
Swaziland	0.59	2.7	799	7.1	6.5	2.9	4.3	3.5	-0.1
Uganda	14.06	3.0	230 c/	-1.7	4.1	5.9	-4.6	0.9	2.6
Burkina Faso	6.36	1.5	185	1.9	8.6	6.9	0.5	6.9	5.0
Zambia	6.02	3.2	575	0.8	-0.9	3.5	-2.3	-4.1	0.3
Zimbabwe	7.91	3.4	869	2.3	14.1	3.0	-1.1	10.3	-0.4

Source : UNCTAD secretariat calculations based on data from the United Nations Statistical Office, the Economic Commission for Africa, the World Bank and other international and national sources.

a/ Average annual growth rates based on exponential trend function.

b/ Fiscal Year beginning 1 July.

c/ GNP.

Table 2 : Growth of Export Value and Purchasing Power of Land-Locked Developing Countries, 1970-1982

Country	Exports in 1982			Annual average growth rate (%) of :								
	Total		Per capita	Export value			Purchasing power of exports			Purchasing power of exports per capita		
	$ million	% of GDP	$	1970-80[a/]	1980-81	1981-82	1970-80[a/]	1980-81	1981-82	1970-80[a/]	1980-81	1981-82
Botswana	448	55.9	464.2	31.4	-20.5	12.0	14.2	-22.3	15.6	10.4	-24.9	11.6
Burundi	88	7.9	19.7	17.3	9.2	23.9	2.0	6.8	27.9	0.0	4.2	24.7
Cent. African Rep	110	17.0	45.7	13.5	0.9	-6.0	1.9	4.2	-2.8	-0.4	1.7	-5.0
Chad	145	21.1	31.2	17.3	-4.1	3.6	2.3	-4.9	6.4	0.3	-6.8	4.2
Lesotho	37	10.9	26.3	26.0	-12.1	-27.5	9.5	-14.0	-25.1	7.0	-16.1	-27.0
Malawi	259	19.4	41.3	16.5	-15.1	7.0	1.6	-16.4	8.9	-1.0	-18.5	6.2
Mali	146	12.7	19.9	21.3	-24.8	-5.8	5.5	-26.2	-3.2	2.7	-28.1	-5.6
Niger	333	16.7	57.0	33.8	-19.6	-26.8	15.8	-23.1	-25.0	12.7	-25.3	-26.9
Rwanda	90	6.5	16.1	18.8	11.8	5.9	4.6	12.5	8.0	0.7	8.5	4.1
Swaziland	306	65.0	519.7	15.9	5.5	-19.1	..	..	..	..	..	..
Uganda	348	10.7[b/]	24.8	4.9	-28.1	40.3	-6.3	-25.3	42.2	-9.0	-27.6	37.7
Burkina Faso	80	6.8	12.6	18.4	-16.7	6.7	3.5	-17.8	9.9	2.1	-19.1	8.0
Zambia	1059	30.6	175.9	3.3	-15.1	0.3	-11.7	-18.5	3.9	-14.4	-21.1	0.6
Zimbabwe	1250	18.2	158.0	12.9	-1.2	-11.1	..	..	..	..	..	..

Source : United Nations Monthly Bulletin of Statistics, FAO, IMF International Financial Statistics, national sources and preliminary estimates of the UNCTAD secretariat.

a/ Average annual growth rates based on exponential trend function

b/ Percentage of GNP

Table 3 : Growth of Import Value and Volume of Land-Locked Developing Countries 1970-1982

Country	Imports in 1982			Annual average growth rate (%) of :								
	Total		Per capita	Import value			Import volume			Import volume per capita		
	$ million	% of GDP	$	1970-80[a]	1980-81	1981-82	1970-80[a]	1980-81	1981-82	1970-80[a]	1980-81	1981-82
Botswana	683	85.2	707.8	28.2	15.6	-14.5	11.4	13.0	-11.8	7.7	9.2	-14.8
Burundi	214	19.3	48.0	22.4	-0.6	28.1	6.4	-2.8	32.2	4.3	-5.2	28.9
Centr. African Rep	92	14.2	38.3	8.9	84.0	-38.3	-2.3	90.0	-36.1	-4.5	85.6	-37.6
Chad	140	20.3	30.2	10.9	6.2	2.2	-3.2	5.3	4.9	-5.2	3.2	2.8
Lesotho	491	145.2	348.5	30.8	14.7	-7.7	13.6	12.1	-4.8	11.0	9.4	-7.1
Malawi	314	23.5	50.1	17.1	-18.2	-12.8	2.0	-19.4	-11.2	-0.6	-21.5	-13.5
Mali	332	28.9	45.2	23.4	-16.9	-9.0	7.3	-18.5	-6.5	4.5	-20.5	-8.8
Niger	442	22.2	75.6	27.5	-14.1	-13.3	10.3	-17.9	-11.2	7.4	-20.2	-13.4
Rwanda	286	20.7	51.2	26.4	16.5	1.1	11.2	17.1	3.0	7.1	12.9	-0.6
Swaziland	526	111.8	893.0	26.2	-1.0	-11.8	..	..	..	..	..	..
Uganda	377	11.6[b]	26.8	3.4	32.4	-2.8	-7.6	37.7	-1.6	-10.3	33.4	-4.6
Burkina Faso	380	32.3	59.7	21.8	-5.6	12.4	6.5	-6.9	15.8	5.0	-8.4	13.8
Zambia	831	24.0	138.0	5.6	-4.9	-20.6	-9.8	-8.8	-17.7	-12.5	-11.7	-20.3
Zimbabwe	1430	20.8	180.8	10.9	14.1	-2.9	..	..	..	..	..	..

Source : United Nations Monthly Bulletin of Statistics, FAO, IMF International Financial Statistics, national sources and preliminary estimates of the UNCTAD secretariat.

a/ Average annual growth rates based on exponential trend function.

b/ Percentage of GNP.

ble 4 : Main markets for exports of Lldcs : relative shares in 1980 (or latest year available)

Country	Year	Developed market economies						Socialist countries		Developing countries			Unallocated
		Total	EEC	EFTA	Japan	USA	Other	Eastern Europe	Asia	Total	OPEC	Others	
otswana	1980	91.1	63.5[a]	..	-	21.0	6.6[b]	-	-	8.4	..	..	0.5
urundi	1981	86.0	22.3	0.4	-	43.9	19.4	-	-	9.2	-	9.2	4.8
entral African Rep.	1980	97.5	76.6	1.1	0.1	4.3	15.4	0.7	-	1.8	0.1	1.7	-
had	1975	(62.3)	(61.7)	-	-	0.3	0.3	-	-	37.7	21.1	16.6	-
esotho	1978	93.3	53.4	-	-	-	39.9[b]	..	..	-	..	-	6.7
alawi	1980	79.1	50.7	3.1	1.9	16.9	6.5	-	-	15.1	0.2	14.9	5.8
ali	1977	66.6	57.0	0.1	7.0	0.0	2.5	0.9	12.1	20.4	1.1	19.3	-
iger	1976	73.3	73.1	0.0	-	0.1	0.1	-	0.0	26.4	23.5	2.9	0.3
wanda	1978	15.6	14.1	0.4	-	1.1	-	-	-	82.6	..	82.6	1.8
waziland	..	..	..	..	..	..	..	..	..	..	..	..	..
ganda	1977	90.4	31.6	0.6	-	48.4	9.8	-	-	1.7	-	1.7	7.9
urkina Faso	1980	42.4	33.2	2.0	7.0	0.1	0.1	-	2.1	55.4	4.7	50.7	0.1
ambia	1978	85.0	47.9	4.1	19.2	10.0	3.6	1.0	3.0	10.9	0.0	10.9	-
imbabwe	..	..	..	..	..	..	..	..	..	..	..	..	..

ource : UN : Yearbook of International Trade Statistics, 1981; Eurostat, ACP : Yearbook of Foreign Trade Statistics, 1972-78 and national sources. UNCTAD : Handbook of International Trade and Development Statistics 1983.

a/ Including other Europe
b/ South African Customs Union.

Table 5 : Main sources of imports of Lldcs : relative shares in 1980 (or latest year available)

Country	Year	Developed market economy countries						Socialist countries		Developing countries			Unallocated
		Total	EEC	EFTA	Japan	USA	Other	Eastern Europe	Asia	Total	OPEC	Other	
Botswana	1980	(92.5)	(2.5)	-	-	(3.0)	87.0[a/]	-	-	(6.5)	..	..	1.0
Burundi	1980	60.5	44.8	1.2	6.4	5.8	2.3	1.9	6.1	27.3	13.5	13.8	4.2
Central African Rep.	1980	89.2	73.5	1.8	7.2	3.5	3.2	0.6	0.4	9.7	1.5	8.2	0.1
Chad	1975	67.4	58.4	0.9	1.8	5.7	0.6	2.1	1.1	28.9	12.3	16.6	0.5
Lesotho	1978	100.0	1.0	-	-	-	99.0[a/]	-	-	-	-	-	-
Malawi	1980	87.6	33.7	3.4	7.0	3.4	40.1	0.0	0.0	12.4	0.8	11.6	0.0
Mali	1977	61.8	54.0	2.3	2.4	1.7	1.4	4.1	4.5	26.9	0.2	26.4	0.0
Niger	1976	67.7	56.0	1.1	3.0	6.4	1.2	0.8	2.9	22.4	10.8	11.6	6.2
Rwanda	1978	66.7	48.9	1.2	11.9	4.4	0.3	2.5	6.1	22.9	7.0	15.9	1.7
Swaziland	..	..	..	..	..	..	..	..	..	..	..	..	..
Uganda	1978	56.6	48.0	..[b/]	5.4	1.1	2.1[b/]	0.4	0.2	41.4	..	..	1.4
Burkina Faso	1980	69.7	54.5	1.0	3.7	9.0	1.5	0.7	1.9	20.3	0.8	19.5	7.4
Zambia	1978	77.9	46.0	7.6	4.4	7.8	12.1	0.4	1.3	20.4	14.4	6.0	-
Zimbabwe	..	..	..	..	..	..	..	..	..	..	..	..	..

Source : UN : Yearbook of International Trade Statistics 1981; Eurostat, ACP : Yearbook of Foreign Trade Statistics 1972-78, UNCTAD : Handbook of International Trade and Development Statistics 1983.

Notes : a/ South African Customs Union.

b/ EFTA is included with "other" developed market economy countries.

Table 6 : Selected geographical and demographic data : land-locked developing countries

Country	Area (000 km2)	Distance to the sea a/ (km)	Population					Labour force	
			Density (pop./km2)	Total (million)	Average expectancy at birth (years)	Infant mortality (per 1000 live births)	Urban (%)	% in agriculture	% in industry
			1982	1982	1981	1981	1979-1981	1982	1980
Botswana	600.4	1100-1400	2	1.0	57	81.6	20	79	8
Burundi	27.8	1455-1850	160	4.5	45	119.6	2	82	5
Central African Rep.	623.0	1400-1815	4	2.4	43	146.3	29	86	4
Chad	1284.0	1715-2015	4	4.6	43	146.3	19	82	7
Lesotho	30.4	740-800	46	1.4	52	113.3	12	82	4
Malawi	118.5	560-700	53	6.3	44	169.1	10	82	5
Mali	1240.0	1170-1289	6	7.3	45	152.1	19	86	12
Niger	1267.0	1100-2690	5	5.8	45	143.4	13	87	3
Rwanda	26.3	1750	212	5.6	46	137.0	4	89	2
Swaziland	17.4	200-500	34	0.6	54	133.0	15	71	9
Uganda	236.0	1450	60	14.1	48	95.8	9	80	6
Burkina Faso	274.2	900-1210	23	6.4	44	208.1	11	80	13
Zambia	752.6	2000-2570	8	6.2	51	104.0	44	65	11
Zimbabwe	390.6	592-2000	19	7.5	55	72.0	24	58	15

Source : UNCTAD secretariat estimates, based on data from the United Nations Statistical Office, ECLA, FAO, and the World Bank.

a/ Distance from principal towns to main ports. The figures are the shortest and longest routes used.

Table 7 : Selected economic and social indicators : land-locked developing countries

Country	Energy			Communication		Education			Health	Food	
	Consumption per capita (kg of coal equivalent)						School enrolment ratio (% of relevant age group)		% of population with access to safe water	Cereal	
	Coal, oil, gas & electricity	Firewood, charcoal and bagasse	Total	Telex (number of lines)	Telephone per 1000 population	Adult literacy rate	Primary	Secondary		Consumption per capita (kg)	Self sufficiency ratio (%
	1981	1981	1981	1981	1981	1980	1981	1981	1976	1982	1982
Botswana	377[a]	..	377[a]	140[c]	18.0	62	102	23	45[c]	91	25
Burundi	18	56	74	85[a]	1.0	27	32	3	11[c]	67	93
Central African Rep.	40	361	401	134	1.7	33	60[a]	13[a]	16	56	78
Chad	22	544	566	60[f]	0.5	21	38[a]	3[g]	26[e]	159	92
Lesotho	..	..	..	138	4.3	70	104[c]	17[c]	17[e]	167	53
Malawi	49	573	622	351	5.8	36	59[a]	4[a]	33	269	95
Mali	27	1396	1423	164	1.2	14	27[d]	9[d]	9	187	90
Niger	43	165	208	203	1.7	10	23[d]	4[d]	27	309	95
Rwanda	17	312	329	79	0.9	50	72	2	37	54	93
Swaziland	..	..	..	242	23.2	61	110	40	37[e]	137	77
Uganda	23	111	134	418	4.5	52	54	5	35[e]	94	95
Upper Volta	32	340	372	206	1.6	11	20	3	25[e]	217	93
Zambia	373	303	676	1352	10.3	69	96[a]	16[a]	42[e]	192	81
Zimbabwe	552	361	913	1078	29.5	69	126[h]	15	..	250	110

Source : UNCTAD secretariat estimates based on data from the United Nations Statistical Office, FAO, ITU, UNESCO, WHO and the World Bank.

a/ 1980, b/ 1979, c/ 1978, d/ 1975, e/ 1977, f/ 1976, g/ 1982.